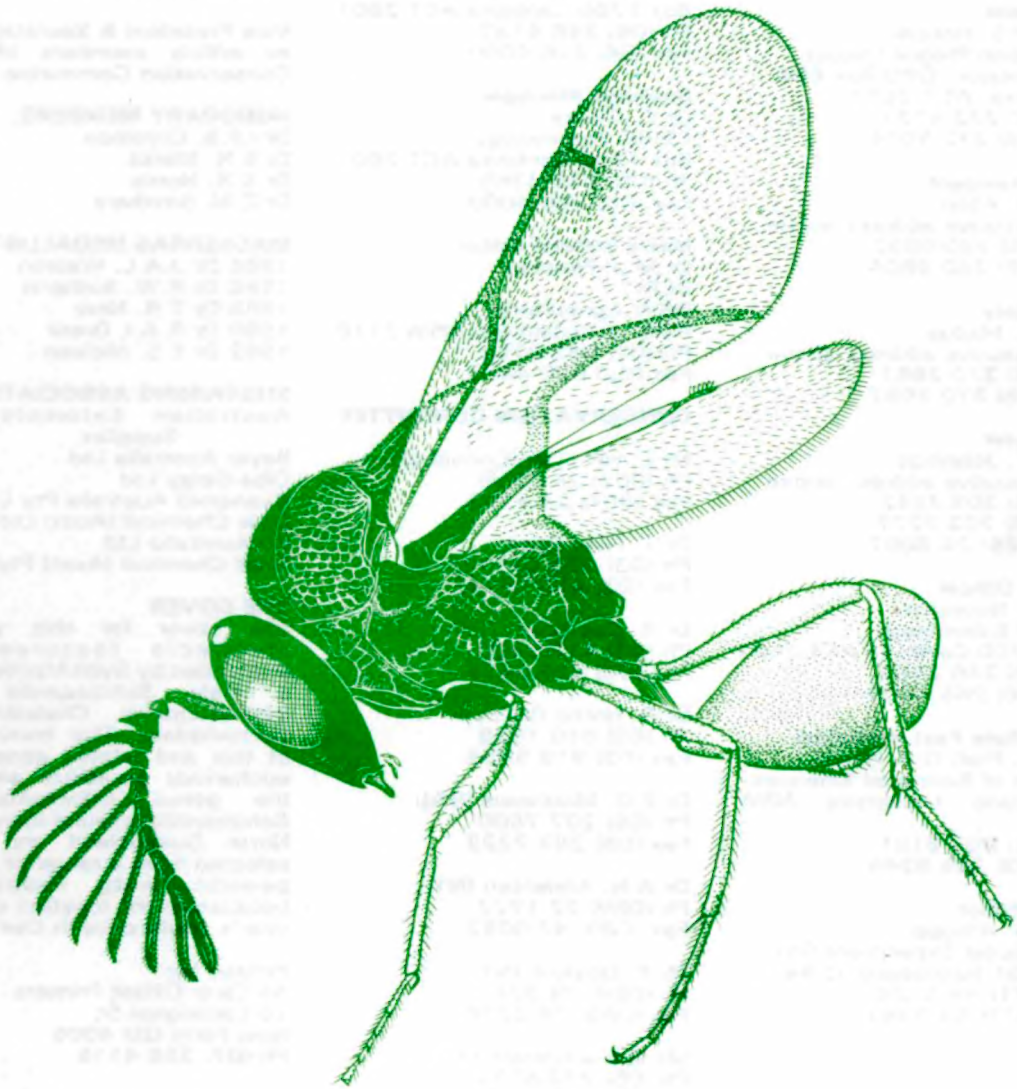
MYRMECIA

News Bulletin of the Australian Entomological Society Inc.
Volume 29, Part 3, August 1993
Reg. by Australia Post; Publication No. QBG3480; Price: $2



AUSTRALIAN
ENTOMOLOGICAL SOCIETY
EXECUTIVE ADDRESS
Australian Entomological Society Executive
c/- Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond
South Australia 5064
AUSTRALIA

OFFICE BEARERS

President
Dr G.H.S. Hooper
Australian Plague Locust Commission, GPO Box 858, Canberra, ACT 2601
Ph (06) 272 5727
Fax (06) 272 5074

Vice President
Dr P.G. Allen
c/- Executive address above
Ph (08) 240 9852
Fax (08) 240 9804

Secretary
Dr P.E. Madge
c/- Executive address above
Ph (08) 370 2987
Fax (08) 370 2987

Treasurer
Mr J.T. Jennings
c/- Executive address above
Ph (08) 303 7842
(08) 303 7277
Fax (085) 24 8007

Public Officer
Dr I.D. Naumann
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 2462
Fax (06) 246 4000

Immediate Past President
Assoc. Prof. D.F. Hales
School of Biological Sciences
Macquarie University NSW 2109
Ph (02) 805 8181
Fax (02) 805 8245

Chief Editor
Dr P.G. Allsopp
Sthn Sugar Experiment Stn
Box 651 Bundaberg, Q 4670
Ph (071) 59 3228
Fax (071) 59 3383

Technical Editors
Dr A.L. Bishop
Horticultural Research Station
Box 581 Gosford NSW 2250
Ph (043) 28 0328

Dr I.D. Naumann
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4262
Fax (06) 246 4000

Dr A. Wapshere
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4137
Fax (06) 246 4000

Business Manager
Dr G. Clarke
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4365
Fax (06) 246 4000

News Bulletin Editor
Dr M.J. Fletcher
BCRI
NSW Agriculture
PMB 10 Rydalmere, NSW 2116
Ph (02) 683 9752
Fax (02) 630 4475

CONSERVATION COMMITTEE

Mr L. Hill (Tas)(Convenor)
Ph (004) 24 0236
Fax (004) 24 5142

Dr T. New (Vic)
Ph (03) 479 1111
Fax (03) 478 5814

Dr R. Coy (Vic)
Ph (03) 419 5200
Fax (03) 416 0475

Dr P. Horne (Vic)
Ph (03) 810 1528
Fax (03) 819 5653

Dr E.G. Matthews (SA)
Ph (08) 207 7500
Fax (08) 207 7222

Dr A.N. Andersen (NT)
Ph (089) 22 1727
Fax (089) 47 0052

Mr P. Dostine (NT)
Ph (089) 79 9711
Fax (089) 79 2076

Ms G. Carruthers (ACT)
Ph (06) 272 5070
Fax (06) 272 5074

Dr G. Friend (WA)
Ph (09) 405 5121
Fax (09) 306 1641

Dr J. Majer (WA)
Ph (09) 350 7964
Fax (09) 351 2495

Dr R.V. Gunning (NSW)
Ph (067) 67 9300
Fax (067) 67 9370

Mr G. Williams (NSW)
Ph (02) 339 8111

Vice President & Secretary are *ex officio* members of the Conservation Committee

HONORARY MEMBERS
Dr I.F.B. Common
Dr E.N. Marks
Dr K.R. Norris
Dr C.N. Smithers

MACKERRAS MEDALLISTS
1984 Dr J.A.L. Watson
1986 Dr R.W. Sutherst
1988 Dr T.R. New
1990 Dr R.A.I. Drew
1992 Dr E.S. Nielsen

SUSTAINING ASSOCIATES
Australian Entomological Supplies
Bayer Australia Ltd
Ciba-Geigy Ltd
Cyanamid Australia Pty Ltd
Dow Chemical (Aust) Ltd
ICI Australia Ltd
Shell Chemical (Aust) Pty Ltd

THE COVER
The cover for this year's *Myrmecia* features an illustration by Sybil Monteith of a male *Schizaspidia* sp. (Hymenoptera: Chalcidoidea: Eucharitidae). The immatures of this and related genera of eucharitids parasitize ants of the genus *Odontomachus*. *Schizaspidia* is found in tropical North Queensland and was selected from a range of other parasitic wasp illustrations because of the location of this year's conference in Cairns.

Printed by:
All Clear Offset Printers
15 Lamington St
New Farm Qld 4005
Ph (07) 358 4115

MYRMECIA

CONTENTS

Executive Report 1
Conservation Committee Report 3
Minutes of 24th AGM 3
Annual Report for 1992
  Executive Summary 5
  Illustration Competition Winners 9
  Treasurer's Report 13
  Financial Statements 15
  Chief Editor's Report 18
  News Bulletin Editor's Report 18
  Conservation Committee Report 19
  Business Manager's Report 20
24th Organising Committee's Report . . 20
4th Meeting of CHAEC 25
AES Research Grant Report 30
24th Conference Photo 34
Regional News
  Australian Capital Territory 35
  New South Wales 36
  Northern Territory 40
  Queensland 43
  South Australia 49
  Tasmania 51
  Victoria 52
  Western Australia 54
Overseas News 54
News from Affiliated Societies 56
Book Reviews 57
New Publications 59
Market Place 59

Advertising Rates for Myrmecia

	Single Issue	4 Issues (One year)
Full Page	$60	$180
Half Page	$35	$105
Quarter Page	$24	$72

These rates apply to camera-ready copy supplied by the advertiser. Where this is not supplied, an additional charge may be made for the layout.

In addition, loose inserts and pamphlets supplied by the advertiser will be included in a mailout for $100 per item. The items should be of a size which will not project beyond the pages of *Myrmecia*.

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

Copy Deadline for Next Issue

Material for publication in the November 1993 issue of *Myrmecia* should be in the hands of the Editor at the address below by **Friday 29 October 1993**. Submission on IBM-compatible floppy disk in a major word processing format is preferred. Details are available from the Editor.

Murray FLETCHER
News Bulletin Editor
Biological and Chemical Research Institute
PMB 10, Rydalmere, NSW 2116

EXECUTIVE REPORT

Meetings

The Core Executive met on 13 May, 10 June and 30 July 1993.

New Members

We welcome the following new members to 1993 membership:

Elected 13 May 1993

Ms R.J. HOLLAND, BSc(Hons), 8 Leslie Rd, Glenbrook NSW 2773. Rita, a Professional Officer at Macquarie University, has interests in the molecular biology of aphids and in biological control.

Miss L. RODGERSON, BSc(Hons), School of Biology, Macquarie University, North Ryde NSW 2109. Louise is a PhD student and has an interest in seed dispersal by ants.

Mr P. SUNNUCKS, BA, School of Biological Sciences, Macquarie University, North Ryde NSW 2109. Paul is a Postdoctoral Research Biologist with an interest in the biochemical/molecular genetics of invading insects.

Elected 10 June 1993

Dr E. BARTOWSKY, PhD, Dept of Crop

Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064. Eveline is a Postdoctoral Fellow in the above Department.

Mrs R. DELVES, PO Box 228, Hanwood NSW 2680.

Mr Bijan HATAMI, MSc, Dept of Crop Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064. Bijan is a PhD Student with interests in biological control.

Elected 30 July 1993

Mr C. ADAMSON, BSc, 5010 Solano Ave, Richmond CA 94805 USA. Chris is a graduate of the University of California (Davis) and has an interest in the world- wide distribution of the Lucanidae.

Ms S. BROUGHTON, BSc(Hons), CTPM, University of Queensland, St Lucia QLD 4072. Sonya is a PhD Student with interests in the biological control of insects and weeds, integrated pest management and insect and marsupial ecology.

Mr M.G. CAIRNS, 17 Boga St, Lake Boga VIC 3584. Mark is a BSc Student at La Trobe University and has an interest in the Lepidoptera.

Dr B.C. CHESSMAN, PhD, Australian Water Technologies - Science & Environment, PO Box 73, West Ryde, NSW 2114. Bruce is a Scientific Projects Manager.

Mr P.A. FARRELL, BSc, Bundaberg Res. Station, MS 108, Ashfield Rd, Bundaberg QLD 4670. Paul is a Masters Student at the University of Central Queensland and has a project on the developmental biology of parasites of the potato tuber moth.

Miss V. TRAICEVSKI, BSc(Hons), Dept of Zoology, La Trobe University, Bundoora VIC 3083. Violeta is a Postgraduate Student with interests in aphid ecology, nutritional ecology of aphids and evolutionary ecology.

Resignation from Membership

(Received with regret)

MR F.B. ANTRAM

Change of Address or Title

Ms G.F. CARRUTHERS, Geography Dept, Science Faculty, Australian National University, Canberra ACT 0200

Mr N.W. FORRESTER now Dr

Mr P.S. GILLESPIE is a FULL member

Dr G. GORDH, now Professor, Department of Entomology, University of Queensland, St Lucia QLD 4072

Mr J.E. IRESON, Plant Protection Branch, Dept of Primary Industry and Fisheries, St John's Ave, New Town TAS 7008

Ms K.N. JOHNSON, CSIRO Entomology, PO Box 1700, Canberra ACT 2601

Ms L. JOHNSON, Dept of Crop Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064

Dr S. LAWSON, now FULL member, Insect Management Laboratory, Forest & Forest Products Research Institute, PO Box 16, Tsukube Narin Kenkyu Danchiski, Ibaraki 305 JAPAN

Dr E.N. MARKS, PO Box 219, Samford QLD 4006

Ms G. MAYNARD, 8 Marsden St, Dickson ACT 2602

Mr A.D. MOORE, 6 Masuda St, Annandale QLD 4814

Mr M.R. NEWTON, 88 Walsh St, Mareeba QLD 4880

Ms D.J. RAE, status change to Dr, address change to BCRI, PMB 10, Rydalmere NSW 2116

Dr M. SCHWARZ, Biological Sciences, Flinders University, GPO Box 2100, Adelaide SA 5001

Mr M.E. SPARKS, 7 Orton St, Lucas Heights NSW 2234

Mr G.I. Thompson, Queensland Museum, PO Box 3300, South Brisbane, QLD 4101

Ms R.L. WHYTE, status change to Mrs R.L. MacKay

Missing Members

The Society has lost contact with the following members.

Please forward any current address of any of these members to the Secretary.

Mr J.W.O. BALLARD

Dr D.E. EVANS

Dr G.G. FOSTER

Mr R.M.M. TRAYNIER

From the Minutes

Vale

The Executive recorded with regret the passing of Dr R.N. McCulloch.

The Executive were pleased with the number and quality of submissions for the AES Research Grants (7) and Phil Carne Prize (11). These entries were passed on to the President's Assessment Committees for appraisal.

Executive activity is recorded in the Annual Report presented at the 24th Annual General Meeting in Cairns and reported elsewhere in this issue of *Myrmecia*.

Paul MADGE
Hon. Secretary

Conservation Committee Quarterly Report

A questionnaire seeking information for an inventory of current official non-marine invertebrate conservation projects plus similar reports for the last 10 years was sent to 35 State and Federal agencies in June. By 8 August eight replies had been received. The deadline is October.

The questionnaire seeks project title, project aim, project leader and completion date for current projects and title, author, date, publication volume, pages for publications and format and availability of unpublished reports completed since 1983. It is hoped that the very simple nature of this request will prompt a good first response to which further information can be added. Replies will be collated and returned to the agencies as well as published in *Myrmecia*.

This will facilitate coordination of State and Federal programs, encourage AES members to participate and assist in future funding of projects.

The third issue of "On The Brink", the newsletter of the Endangered Species Program, appeared in June. The ESP is aprt of the Autralian Nature Conservation Agency, formerly the Australian National Parks and Wildlife Service. The ES Unit services the Endangered Species Protection Act 1992 which took effect in April 1993. A 13 member Endangered Species Advisory Committee advises the Federal minister on the Act. It includes Dr Tim New, Reader in Zoology at La Trobe University and a member of AES and its Conservation Committee. Among 25 new projects funded by the ESP is the "Research plan implementation for invertebrate community on Mt Piper". The point of contact for invertebrate projects in the nine member ESU is Jamie Pook, (06) 2500283.

A synopsis of public submissions on the "National Strategy for the Conservation of Australia's Biological Diversity" is now available from the Department of Environment Sports and Territories (formerly DASET), GPO Box 787, Canberra 2601, phone (06) 2741111. The Conservation Committee made a submission on the draft strategy.

Lionel HILL
Convenor

MINUTES OF THE 24TH ANNUAL GENERAL MEETING held at the Matson Plaza Hotel, Cairns 4.00 P.M. on Tuesday, 6 July 1993

1. Opening

The President, Dr Gordon Hooper, opened the meeting at 4.25 p.m. and welcomed the 94 members in attendance. A signed register is attached to the file copy of these minutes.

2. General Announcements

Members were requested to give their names when proposing or seconding motions.

3. Announcements of Apologies and Proxies

Apologies were received from (proxies in brackets): A/Prof. D. Hales, Dr E. Marks, Mr J. Clancy (Dr M. Fletcher), Dr A. Yen (Mr A. Henderson), Dr S. Shattuck (Dr P. Cranston), Mr W. Frost (Dr A. Austin), Mr J. van Schagen (Dr D. Cook), Dr S. McEvey (Dr G. Hooper), Mr L. Hill (A/Prof. J. Majer), Dr G. Clarke (Dr I. Naumann), Ms P. Greenslade (Dr P. Cranston).

4. Deaths of members recorded since 23rd Annual General Meeting

The President noted with regret the deaths of: Leonard Edgar Couchman
Neil Gough
Robert Nicholson McCulloch
Norman Ambrose Richardson

(NB - The names Rudolph H. Mulder and Geoffrey J. Snowball were inadvertently left off the original list.)

The President also reported the death of Herbert George Andrewartha. It was felt that the death of this eminent insect ecologist should be noted, although he was not a member of the Australian Entomological Society.

Members stood briefly as a show of respect towards the deceased.

5. Minutes of 23rd Annual General Meeting held in Hobart

These minutes, published in *Myrmecia* in February 1992, were adopted (Moved J. Madden, Seconded H. Fay).

6. Matters Arising from the Minutes

None

7. Annual Report of the Executive

Executive Summary

The Vice-President, Dr P. Allen, highlighted the main points of Executive and other Society activities since the Annual General Meeting in Hobart (See Annual Report).

Treasurer's Report

The Treasurer, Mr J. Jennings, spoke to the report, which included increases in the level of subscriptions (See Annual Report). There were no questions.

Business Manager's Report

Dr I. Naumann presented this report on behalf of the Business Manager, Dr G. Clarke. There were no questions concerning Volume 31 of the Society's Journal (See Annual Report).

Chief Editor's Report

The Chief Editor, Dr P. Allsopp, spoke to this report (See Annual Report). He also described format changes which will be made to the Journal, including page size, margin widths, double instead of single column, type size and with a spine. These changes will make the Journal easier to read, more attractive to look at and cheaper to produce. Comments on these changes from members were favourable.

News Bulletin Editor's Report

This report was presented by the Editor, Dr M.J. Fletcher (See Annual Report). No questions arose.

8. Business Arising from the Annual Report

As there was no business arising from the Annual Report, it was moved (Dr A. Austin, Seconded Miss M. Schneider) that the Annual Report be accepted. Carried.

9. Report of the Conservation Committee

This report was read by A/Prof. J. Majer for the Convenor, Mr L. Hill (See Annual Report). Following a comment from the President of an additional project, it was moved (Dr M. Fletcher, Seconded Dr G. Monteith) that the report be accepted. Carried.

A/Prof. Majer then introduced a proposal that the Convenor of the Conservation Committee be an elected member of the Executive of the Society. He outlined several points for and against the proposal. After considerable discussion by members the meeting strongly supported the *status quo*, with the proviso that the matter be kept under review.

10. Report on Amendments to the Society's Constitution and By-Laws

Dr I. Naumann, Public Officer, reported that voting was overwhelmingly in favour of all changes which had been put to members. He wished to record the efficient manner in which scrutineers Mr M. Upton and Mr R. McInnes carried out their duties. Ballot papers will be retained in Canberra for the immediate future. Arrangements are in hand for the preparation, printing and distribution of the revised Constitution.

11. Announcement of Recipients of the AES Research Grants

The President announced that the Evaluation Committee had approved three of the seven submissions. One of the seven received a special grant towards travel for educational purposes. (Details are given in the Annual Report)

12. Announcement of Winner of the Phil Carne Prize

The President announced that there had been eleven entries from eight Universities this year. The winner, Mr Gary Taylor, was announced in the Annual Report and has now given his paper. The President congratulated Gary and presented him with the prize.

13. Announcement of Winners of the Insect Illustration Competition

The President announced the winners in the

various categories; entries have been on display during the Conference (Details are given in the Annual Report and the winning entries are shown elsewhere in this issue). The President also announced that Council had decided that future submissions should not be restricted to financial members of the Society but should continue to be restricted to non-professional illustrators.

14. Business arising from the 45th Council Meeting

The President announced that, following a submission by members, Council had appointed Dr Bruce Champ as an Honorary Member of the Australian Entomological Society. A summary of Dr Champ's distinguished association with the Society and with Australian entomological research was read to members.

15. Announcement of Officers, Councillors and Executive Appointments for 1993/94

The President announced that this information had been provided on a separate page. An omission was two Regional Councillors for Victoria - Dr A. Yen and Mr A. Henderson, both of whom had been renominated unopposed.

16. Report of the Organising Committee of the 24th Scientific Conference and Annual General Meeting

Mr Ross Storey, Convenor, presented an update of attendance numbers and the number of papers and displays presented. The large number of papers to be presented required concurrent sessions on Tuesday and two separate viewings were required in order to cater for the large number of poster displays. The President's thanks to Mr Storey and his Committee was supported by applause from members.

17. Report of the Organising Committee of the 25th Scientific Conference and Annual General Meeting

The Convenor, Dr A. Austin, provided the following information:

The dates: 24-28 September 1994

The venue: The University of Adelaide, North Terrace Campus and, possibly, the Waite Campus on one day.

Accommodation: Grosvenor Hotel and Adelaide Backpacker's Hostel.

Scientific program: Special symposia (in addition to contributed papers)

- Application of Basic Research to Biological Control
- Biology of Social Insects
- The Changing Face of Entomological Education

Special Invited Speaker

Dr Geoff Waage, Director, IIBC

Social program

Arrival and registration Saturday 24th

Saturday night 24th - Welcoming Reception

Half-day winery tour of Southern Vales

Wednesday night 28th - Conference Dinner

Post-conference tour: Kangaroo Island, restricted number, 3 days/2 nights, about $470.

18. Venue of the 26th Scientific Conference and Annual General Meeting

The Vice-President reported that discussions were being held with entomologists in the Northern Territory.

19. Other Business

None

20. Close

There being no further business, the President thanked members for their attendance and contribution to discussions, and closed the meeting at 6 p.m.

ANNUAL REPORT, JULY 1993 The Australian Entomological Society Inc.

The Executive is please to present the Society's Twenty Fourth Annual Report for the period February 1992 to July 1993.

EXECUTIVE SUMMARY

Executive Meetings

The Executive, together with the Assistant Secretary, Assistant Treasurer and SA Regional Councillor, held sixteen meetings during the above period. The Core Executive were pleased

that the President of the Society joined them for two of the meetings.

Officers, Executives and Executive Appointments

EXECUTIVE OFFICERS

President	Dr G.H.S. Hooper
Vice President	Dr P.G. Allen
Secretary	Dr P.E. Madge
Treasurer	Mr J.T. Jennings
Public Officer	Dr I.D. Naumann
Chief Editor	Dr P.G. Allsopp
Bus. Manager	Dr G.M. Clarke

Other Councillors

News Bulletin Editor	Dr M.J. Fletcher
Technical Editors	Dr A.L. Bishop
	Dr I.D. Naumann
	Dr A.J. Wapshere

Regional Councillors

Queensland	Dr H.A.C. Fay
	Mr B. Franzmann
	Ms M. Griffiths
NSW	Mr J.G. Clancy
	Dr S. McEvey
	Mr R.J. Faulder
Victoria	Mr A. Henderson
	Dr A. Yen
ACT	Dr D. Dall
	Dr S. Shattuck
SA	Dr A.D. Austin
Tasmania	Dr T. Kingston
WA	Mr J. van Schagen
NT	Mr P. Dostine

Representative Councillors

Ent. Soc. Queensland	Ms C. Neale
Ent. Soc. NSW	Dr G.R. Brown
Ent. Soc. Victoria	Dr R. Field

Overseas Correspondents

New Zealand	Mr J. Tenquist
Papua New Guinea	Prof. R. Kumar

Executive Appointments

Assistant Secretary	Dr P.T. Bailey
Assistant Treasurer	Dr S. Barker
Editorial Assistant	Mrs J. Allsopp

Conservation Committee

Convener Mr L. Hill (Tas)

Members Dr T. New (Vic), Dr R. Coy (Vic), Dr P. Horne (Vic), Dr E.G. Matthews (SA), Dr A.N. Andersen (NT), Mr P. Dostine (NT), Ms G. Carruthers (ACT), Dr G. Friend (WA), A/Prof. J. Majer (WA), Dr R.V. Gunning (NSW), Mr G. Williams (NSW), Dr P. Weinstein (Qld), Vice President and Secretary (*ex officio*).

Editorial Board

Dr I. Abbott, Dr P.T. Bailey, Dr W.J. Bailey, Dr B.K. Cantrell, Dr B.R. Champ, Dr M.J. Fletcher, A/Prof. D.F. Hales, Dr K.L.S. Harley, A/Prof F.J.D. McDonald, Dr M.J. Rice, Dr D.J. Rogers, Dr R.C. Russell, Dr T.C.R. White.

24th AGM Organising Committee (Cairns)

Convenor Mr R. Storey

Members Ms M.P. Ablin (Secretary), Mr K.J. Chandler (Treasurer), Dr H.A.C. Fay (Scientific Program), Dr C. Hill, Mr R. Piper.

25th AGM Organising Committee (Adelaide)

Convenor Dr A.D. Austin

Members Mr D.C. Hopkins (Fund Raising), Ms L. Johnson (Social Program), Dr M.A. Keller (Scientific Program), Mr P.D. Taverner, Mr G.S. Taylor (Treasurer)

Honorary Members

Dr I.F.B. Common
Dr E.N. Marks
Dr K.R. Norris
Dr C.N. Smithers

Mackerras Medallists

Dr J.A.L. Watson	1984
Dr R.W. Sutherst	1986
Dr T.R. New	1988
Dr R.A.I. Drew	1990
Dr E.S. Nielsen	1992

Sustaining Associates

Australian Entomological Supplies
Bayer Australia Ltd
Ciba Geigy Ltd
Cyanamid Australia Pty Ltd
Dow Chemical (Australia) Ltd

ICI Australia Ltd
Shell Chemical Australia Ltd.

Membership

The membership of the Society in June 1993 totalled 856, which comprised:

Honorary Members	4
Full Members	622
Student Members	117
Joint Members	22
Retired Members	81
Associated Companies	7
Affiliated Societies	3

48 members are currently unfinancial

There are a further 15 people who receive *Myrmecia* only.

The Executive recorded with regret the deaths of:

Leonard Edgar COUCHMAN
Neil GOUGH
Robert Nicholson McCULLOCH
Norman Ambrose RICHARDSON

Australian Entomological Society Research Grants

The current Executive supports the awarding the research grants by the Society to foster entomological research in Australia. The Executive reduced the level of funding for research grants in 1993 in an effort to improve the Society's financial position, but plans to increase the level as the financial position of the Society improves.

Seven proposals were submitted to the Society for research funds and we are pleased to announce that the successful applicants for 1993 are:

Mr G. Williams (Australian Museum) - Pollination ecology of lowland rainforest remnants ($413)

Mr S. Winterton (CSIRO Entomology, Indooroopilly) - Survey of central and north Queensland Chrysopidae ($200)

Mr R. van Klinken and Dr G. Walter (University of Queensland) - Field studies of the genetics and field ecology of the drosophilids in North Queensland ($580)

In addition, the Society made a special grant towards the travel costs for the educational project:

Dr G. Monteith and Ms H. Janetski (Queensland Museum) - Development of Australia-wide teacher workshops on the use of insects in classroom teaching ($500).

The Phil Carne Prize

The Phil Carne Prize is awarded by the Society to encourage scientific writing by entomological students who have not gained their PhD. The Executive promoted the award amongst tertiary institutions this year and we were pleased to receive eleven entries from eight Universities in 1993. We congratulate Mr Gary Taylor, MSc(Agr) student, Waite Campus, University of Adelaide, for winning the award in 1993. His paper, entitled "Feeding lesions and the saliva of Hemiptera: how bugs obtain nutrients from their host plants" was presented at the Cairns conference.

Biological Illustration Competition

The Society awards prizes to non-professional illustrators for colour and black & white illustrations of insects and allied forms to promote excellence in insect illustration. A total of 43 entries by 21 illustrators was received. However, only two entrants were financial members of the Society and eligible to compete. The winner was:

Student Colour
. First Ms G. Mayo, Adelaide
Cyphogastra sp.
. Second Ms G. Mayo, Adelaide
Ornithoptera priamus

Entries were not received for Student B&W and Open B&W and Colour.

An "unofficial" competition for non members was held this year because of the large number of high quality entries in this category. The winners were:

Non-member Colour
. First Ms K. Thompson, Newcastle
Hymenoptera, indet.
. Second Ms J. Hall, Lambton
Thopha saccata

Non-member Black & White
. First Ms R. Wisely, Newcastle
Anax papuensis

. Second Ms S. Naumov, Newcastle
Phoracantha semipunctata

The winning and selected entries were displayed during the Scientific Conference and AGM at Cairns.

Summary of Activities

A major thrust of the Executive in its first term was to consolidate the Society's finances to provide the Society with a buffer against the current decreasing interest rates and increasing costs. This direction limited expenditure on some on-going activities of the Society and constrained the Executive in implementing initiatives. The positive consequences of this decision are given in the Treasurer's Report.

The Executive was acutely aware and concerned with the decline, often great, in resources given to entomology and entomologists in many institutions around Australia. Discussions have been held on ways to promote entomology and entomologists. The Executive does not believe that the Society should be involved in lobbying Governments and research funding organisations but can make statements on broad issues. For example, correspondence was sent to the Federal Treasurer through the President in early 1993 expressing the Society's concern with the impact of cuts in rural research funds announced at that time.

The Conservation Committee has also been active in expressing concern over the paucity of entomologists employed or contracted for conservation projects throughout Australia.

The Executive believes that entomology can be promoted through promoting the Society and its publications to members and the public. The Executive provided circulars, including membership forms, for delegates' folders at the Australian Applied Entomological Research Conference held in 1992; encouraged students to compete for the Phil Carne Prize by sending notices to tertiary institutions; sent letters to members with outstanding subscriptions; and is developing strategies to promote the Society's publications.

Further to promoting the Society, the Executive is considering ways to modernise the Society's Journal which is the major "flagship" of the Society.

The Executive urges Councillors and members to consider ways for the Society to further promote the Society, entomology and entomologists in Australia, and looks forward to hearing their ideas.

The Society's Constitution was brought up-to-date during 1992-93 and the Executive is pleased to announce that all changes were accepted, almost unanimously.

The Society's financial management and membership data are now computerised on our own software which can be passed from Executive to Executive.

Plans to update the "Directory of Australian Entomology" have begun - consideration is being given to making it a Directory of the South-West Pacific, including Entomologists in New Zealand, Papua New Guinea and other countries in the region. The publication of a glossary of entomology for secondary and tertiary students is also planned.

Acknowledgments

The Executive thanks members of the previous Executive for the smooth transition from Western Australia to South Australia and for their encouragement.

The Executive also thanks Regional Councillors, Representative Councillors, appointed Assistant Officers, Editors of the Journal, Members of the Editorial Board, News Bulletin Editor and members of the Conservation Committee for their great contributions in keeping the Society running as a truly professional Society.

Members who assisted the President select winners of the Phil Carne Prize and the Research Grants are sincerely thanked.

The Society is indebted to Mr Ross Storey and his colleagues for organising the 24th AGM in Cairns - thank you.

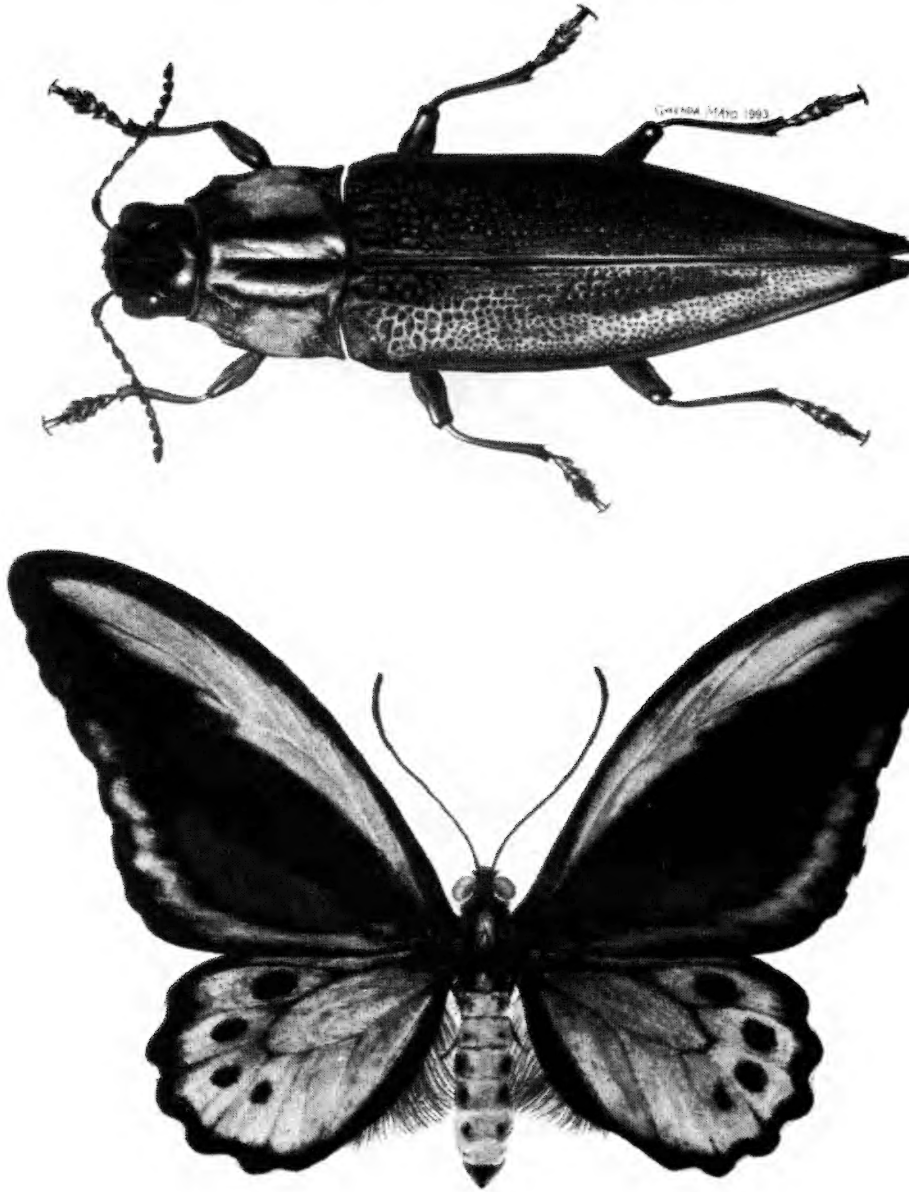
On behalf of the Executive

P.G. ALLEN
Vice-President
Chair of the Executive

P.E. MADGE
Secretary

July 1993

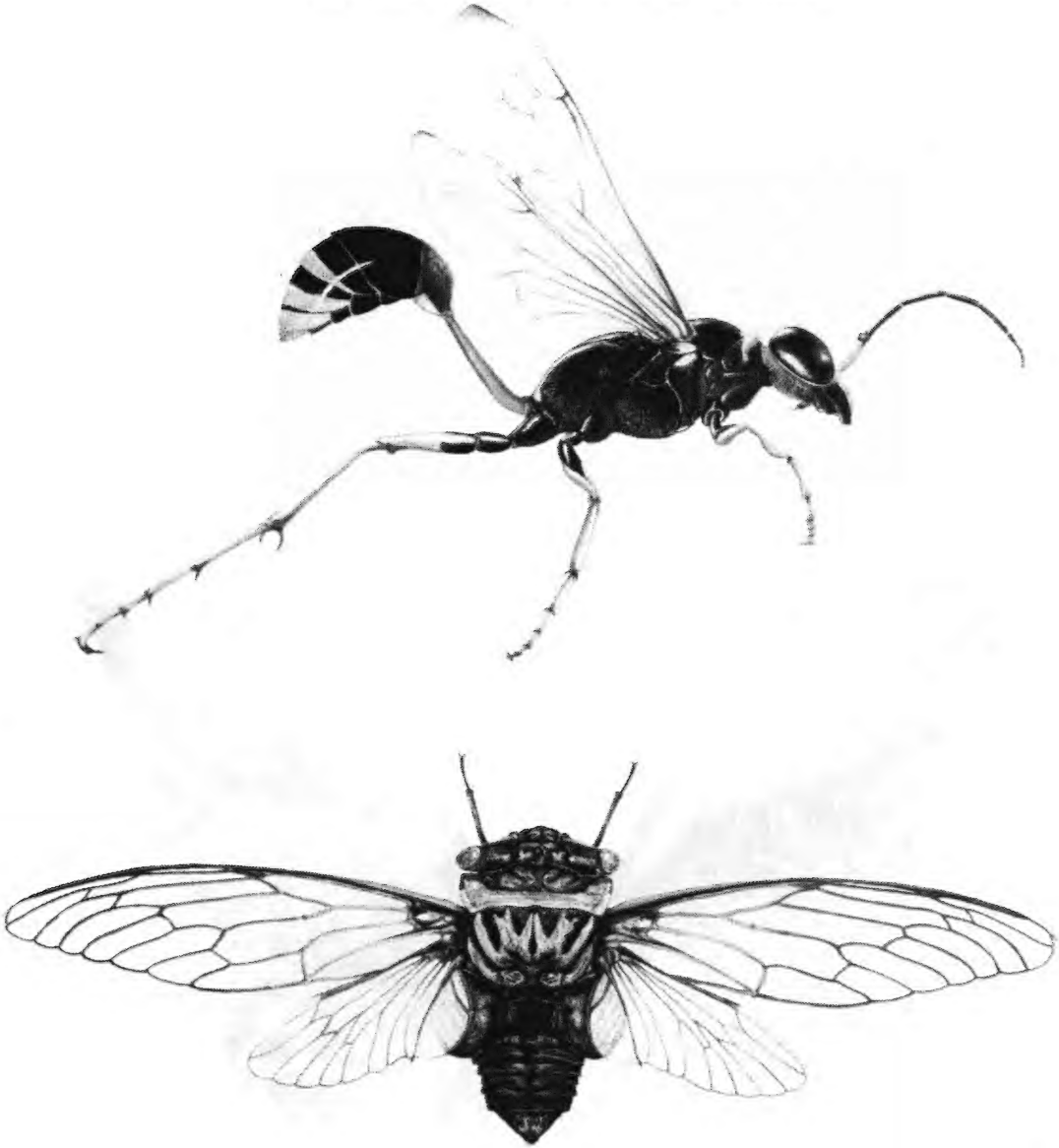
AES ILLUSTRATION COMPETITION WINNERS



Winning Entries, Student, Colour

TOP: *Cyphogastra* sp, (COL: Buprestidae). Gwenda Mayo, Adelaide.
BOTTOM: *Ornithoptera priamus* (LEP: Papilionidae). Gwenda Mayo, Adelaide.

AES ILLUSTRATION COMPETITION WINNERS

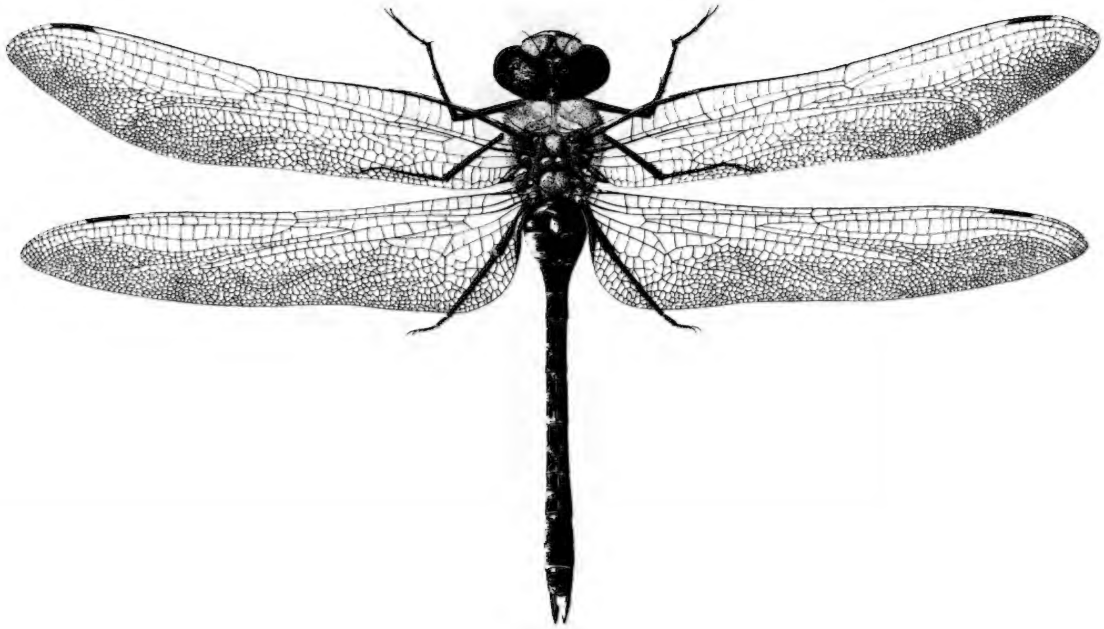


Winning Entries, Non-Members, Colour

TOP: Hymenoptera undet. Katherine Thompson, Newcastle

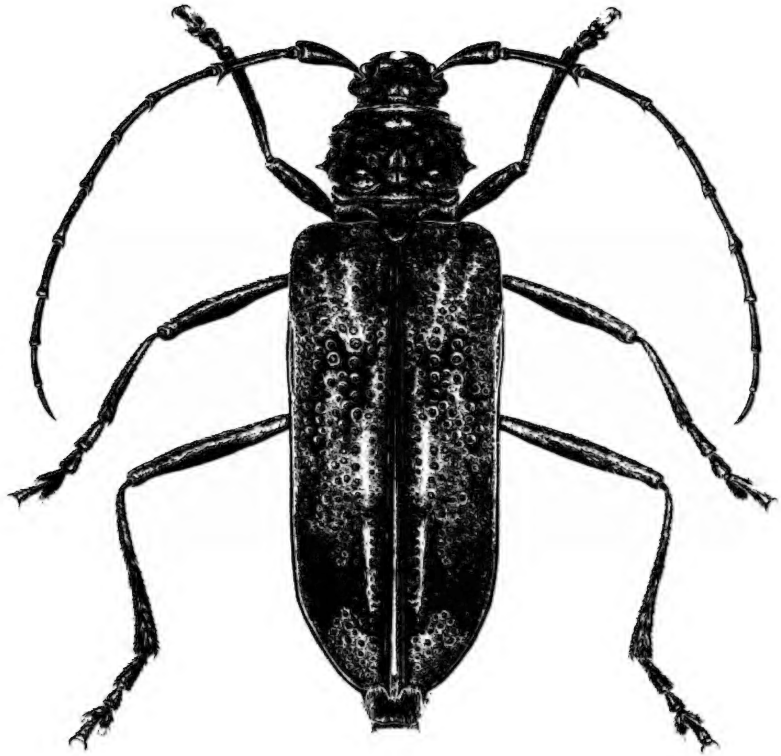
BOTTOM: *Thopha saccata* (HEM: Cicadidae). Juanita Hall, Lambton

AES ILLUSTRATION COMPETITION WINNERS



Winning Entries, Non-Members, Black and White
Anax papuensis (ODONATA: Aeshnidae) Rebecca Wisely, Newcastle

AES ILLUSTRATION COMPETITION WINNERS



Winning Entries, Non-Members, Black and White
Phoracantha semipunctata (COL: Cerambycidae) Sonya Naumov, Newcastle

ANNUAL REPORT OF THE TREASURER FOR THE YEAR 1992

The audit of the Society's accounts indicates a reasonable financial position with total net assets of $83,142, an increase of $15,687 over 1991.

There are several points which I wish to highlight in relation to the accounts:

General Account

Interest earned is somewhat lower, reflecting the decline in available interest rates. Similar results are apparent in all of the Society's accounts.

Membership subscriptions were higher than expected because a lot of 1991 subscriptions were paid in 1992. This was in part due to a campaign by the current Executive to write to members in arrears.

The Mackerras Medals were previously included in the Society's income and expenditure statements but have been removed from the 1992 and any future statements because they have no realisable value.

On the expenditure side, Publications Account expenses and research grants were lower. The former reflects some improvement in the operation of the Publication Account such as increased journal subscriptions received. Expenditure on research grants in 1991 was higher than normal because of some "one-off" projects such as sponsorship of a poster produced by the Queensland Museum.

It should be noted that there were some expenses associated with the transfers of the Executive to South Australia and the Business Manager to Canberra, but these were minimal ($1908).

The cost of producing the News Bulletin, *Myrmecia*, appears to be some $1300 lower but, because some accounts were not received until after the 1992 financial year, the costs are actually about the same as those for 1991.

Bad debts for 1992 are quite a deal lower than in 1991. This is primarily due to a large number of subscription arrears being collected.

Publications Account

Stock (past copies of the Journal, etc) has been valued quite differently in 1992. Given that much of the stock value is not realisable, we have written off all stocks of the Journal that were surplus at the end of the financial year. For the same reason, we have also written off the various Miscellaneous Publications excepting Upton's book which is selling well. This practice will continue in future with stock being written off as appropriate (e.g. depending on turnover) in December of the relevant financial year.

Printing costs appear to have increased, but five issues of the Journal were paid for in the financial year because of the way in which the Society was billed for printing expenses. Printing costs actually declined when this is taken into account.

Annual General Meeting Accounts

These statements are a little confusing since both the Hobart and Cairns AGMs are included.

The Hobart AGM recorded a pleasing net profit of some $2,653.

Little can be made of the Cairns AGM "profit" until the accounts arising from this AGM are finalised.

Conservation Committee

The Conservation Committee account has, for simplicity, been included within the general operations of the Society and now operates via a small float to the Convenor.

I wish now to return to the overall picture of the Society:

Balance Sheet

The increase in Total Net Assets can be attributed largely to the following factors.

1. Cash on hand is some $19,200 higher. This can be attributed to:
   - a much lower transfer of funds to the Publications Account than has been recent practice,
   - a number of expenditure lines being kept in check,
   - a decline in research grants in 1992,
   - an increase in subscriptions received,
   - several items appear to have been included for the first time, namely cash on hand in the several accounts held for the Society by the Business Manager, the News Bulletin Editor, etc.
2. Investments have increased due to interest credited being retained within the accounts.

(The potential for increase in 1993 will be lower due to a large decline in available interest rates. This has the effect of reducing the ability of the Society to fund research grants, student awards, etc.)

While the Society has improved its position markedly in 1992, when the performance over the last several years in examined (Figure 1), it is apparent that we have only begun to restore the finances to those levels of the late 1980s. At least some of the improvement over 1991 is due to the cost-cutting measures indicated above and if the Society were to maintain the level of reduced activity, then at best there would be only a minimal recovery.

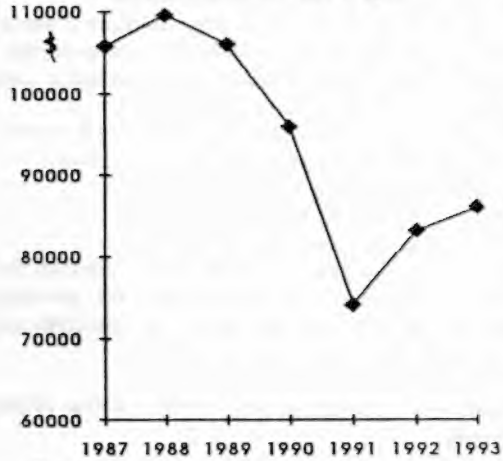


Figure 1. Total Net Assets adjusted for inflation ($'92). (Note: 1993 predicted)

I recommend that the subscription rates to the Australian Entomological Society for 1994 be set as follows:

Full member	$50.00 (up $10.00)
Joint members	$55.00 (up $10.00)
Retired and Student member	$25.00 (up $5.00)
Newsletter only	$15.00 (up $5.00)

(Payment prior to March 1 to receive a discount of $5.00 for Full and Joint members, and $2.50 for retired and student members. This is unchanged)

Affiliated Societies $50.00 (up $10.00)
Assoc. Companies$250.00 (up from $100.00)

The joining fee for new members to be set at the discount rate in the first year.

These modest increases will help to maintain the Society's cash flow which often proves difficult because of the large amount held as investments (used to generate funds for various grants) and the slowness of a substantial number of members in paying their subscriptions which are actually due on the 1st of January of each year.

The proposed increases should also go some way in restoring the Society's financial position to that of earlier years and will also enable the Society to take on various initiatives. It should be noted that even with these increases, the Society continues to be one of the cheaper scientific societies in Australia.

At this point I also recommend that the Executive consider future subscription rate increases based on CPI rises.

Finally, I would like to acknowledge the help of the current and past Executives and the various Conference organisers. In particular, I would like to thank Peter Davis (past Treasurer), John Donaldson (former Business Manager), Geoff Clarke (current Business Manager) and Murray Fletcher (News Bulletin Editor) for their help and cooperation, particularly in answering my many questions relating to the compiling of these accounts. Ms Chris Wellington must also be thanked for auditing the 1992 accounts and for making positive suggestions regarding the accounts.

John T. JENNINGS
Hon. Treasurer

The Australian Entomological Society Incorporated

FINANCIAL STATEMENTS for the year ended 31st December 1992

Audit Report to the Members

SCOPE

We have audited the Financial Statements of the Australian Entomological Society Incorporated for the year ended 31st December 1992 as set out in the following pages. We have conducted an independent audit of these Statements in order to express an opinion on them to Members.

These Statements have been prepared in accordance with Accounting Standards and Statements of Accounting Concepts except where stated otherwise.

The Audit procedures included examination, on a test basis, of evidence supporting the amount and other disclosures in the Financial Statements. These procedures have been undertaken to form an opinion as to whether, in all material respects, the Financial Statements are presented fairly in accordance with our understanding of the financial position of the Society and results of its operations.

AUDIT OPINION

(a) We have not audited the "Conservation Committee Account" with SIROCREDIT, Account S1.3. The Opening Balance at 1st January 1992 was $2269.93, and the Closing Balance at 31st December 1992 was $NIL.

(b) We have relied on a Certificate of Stock on Hand at 31st December 1992 from the Officers of the Society.

Subject to these qualifications, in our opinion, the Financial Statements are properly drawn up so as to give a true and fair view of:

(a) the financial position of the Society as at 31st December 1992, and

(b) the Surplus for the year ended on that date.

J.H. DOYLE & CO.
C. WELLINGTON
Registered Company Auditor
Adelaide: 7th June 1993

The Australian Entomological Society Inc.
BALANCE SHEET
AS AT 31 DECEMBER 1992

	Note	1992 ($)	1991 ($)
CURRENT ASSETS			
Cash	2	29857	10638
Receivables	3,7	3710	1654
Inventories	4	10742	20076
Total current assets		44309	32368
NON-CURRENT ASSETS			
Investments	5	55956	49339
TOTAL ASSETS		100265	81707
LESS CURRENT LIABILITIES			
Creditors & Accrued Charges	6	17123	10202
Provision for bad debts	7	-	4050
Total Liabilities		17123	14252
NET ASSETS		83142	67455
ACCUMULATED FUNDS			
Retained Funds		83142	67455

STATEMENT OF ACCUMULATED FUNDS
FOR THE YEAR ENDED 31 DECEMBER 1992

	Note	1992 ($)	1991 ($)
Balance 1st January 1992		67455	79906
ADD Surplus/Deficit for the Year			
General Fund		21184	(9018)
Publication		(7633)	3514
AGM Committees		4396	(6685)
Conservation Fund	8	(2260)	(262)
Accumulated Surplus at end of the year		83142	67455

GENERAL ACCOUNT
Statement of Income and Expenditure
for the year ended 31 December 1992

INCOME	1992 ($)	1991 ($)
Advertising	460	-
CSIRO Journals	2870	1350

Insects of Australia	167	53615
Interest	5554	6105
Other Income	433	-
Return of Funds ex 22nd AGM	4216	7110
Miscellaneous Sales	290	515
Subscriptions	35809	24012
Medals - closing stock	-	2026
TOTAL INCOME	49799	94733
LESS EXPENDITURE		
Medals opening stock	2026	2229
AGM Expenses	644	600
Audit and Accounting fees	950	950
Bank Charges/Other Expenses	507	452
Bad Debts written off	-	2730
Biol. Illustration Competition	300	-
Executive Travel	-	755
Publications A/C expenses	246	11893
Insects of Australia	755	50875
News Bulletin	7601	8933
Other Expenses	212	2286
Postage, Printing, Stationery	1436	395
Doubtful Debts Expenses	346	5160
Publications and CSIRO	2355	440
Research Grants	2056	9722
Salary, Editor's Assistant	6000	6000
Student Awards	934	-
Subscription to FASTS	339	331
Transport re Change of Office	1908	-
TOTAL EXPENDITURE	28615	103751
OPERATING PROFIT/LOSS BEFORE TAX	21184	(9018)
Income Tax Expense	-	-
OPERATING PROFIT AFTER TAX	21184	(9018)

PUBLICATION ACCOUNT
Statement of Income and Expenditure for the year ended 31 December 1992

	1992 ($)	1991 ($)
INCOME		
Subscriptions	22027	19096
Interest	106	125
Reprints, Back Issues and Sundry Sales	15138	12874
Sundry Income	-	11893
Closing Stock	10742	18050
TOTAL INCOME	48013	62038
LESS EXPENDITURE		
Opening Stock	18050	13123
Bank Charges	36	125
Petty Cash & Insurance	782	1206
Postage	3855	2546
Printing - Journal	30836	28112
Printing - Reprints	1796	2235
Stationery	-	968
Cards	-	1634
Other Printing	291	8575
Total Expenditure	55646	58524
Operating Profit/Loss Before Tax	(7633)	3514
Income Tax Expense	-	-
Operating Loss After Tax	(7633)	3514

ANNUAL GENERAL MEETING COMMITTEES ACCOUNTS
Statement of Income and Expenditure for the year ended 31 December 1992

	1992 ($)	1991 ($)
Opening Balance 23rd AGM	10946	-
INCOME		
Hobart - Fees, Excursions, Sale of Goods	10518	-
- Sponsorships	200	-
Cairns Sponsorships/Donations	3201	-
Interest	1	193
Other Income	-	285
TOTAL INCOME	24866	478
LESS EXPENDITURE		
Hobart		
- Catering/Accommodation	11930	-
- Goods for resale	2010	-
- Photography, Equipment hire	1102	-
- Other	3969	-
Cairns		
- Catering/Accommodation	1250	-
- Printing/Stationery	207	-
- Other Expenses	2	-
Other Expenses	-	53

Transfer to General Account	-	7110
	20470	7163
Operating Profit Before Tax		
- 23RD AGM	2653	
- 24TH AGM	1743	
	4396	(6685)
Income Tax Expense	-	-
Operating Profit After Tax	4396	(6685)

NOTES TO AND FORMING PART OF THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 1992

Note 1. Summary of Accounting Policies

The attached accounts have been prepared in accordance with Accounting Standards jointly issued by the Australian Professional Accounting Bodies. In particular:

(a) The Accounts have been prepared under the Historical Cost Convention and have not been adjusted to record either changes in the general purchasing power of the dollar or in specific prices of assets.

(b) Stock on Hand has been valued at the lower of cost or net realisable value.

(c) The principle of Tax Effect Accounting is not followed because:

- the Tax Concept of Mutuality limits the net taxable income of the Society to income other than from Members.
- the Society has accumulated losses. It is uncertain whether they will be recovered against future taxable income.

Note 2. Current Assets - Cash

	1992 ($)	1991 ($)
Cash Float	250	1
Cash at Bank		
- General Account	12981	6627
- Publication Account	13330	4010
- AGM Accounts (Hobart and Cairns)	3096	-
- Conservation Savings & Loans A/C	200	-
	29857	10638

Note 3. Current Assets - Receivables

Subscriptions in Arrears	5587	1654
LESS provision for doubtful debts (as per Note 7)	3228	-
	2359	1654
Other	1351	-
	3710	1654

Note 4. Current Assets - Inventories

Stock on Hand - Publications	10742	18050
- Medals	-	2026
	10742	20076

Note 5. Non-Current Assets - Investments

Cash at Bank - CMA Account	729	9281
- SIROCREDIT accounts	960	3176
Term Deposits	54267	36882
	55956	49339

Note 6. Current Liabilities

Creditors and Accrued Charges

Creditors and Accruals	9023	1950
Subscriptions in Advance 1993	8100	8252
	17123	10202

Note 7. Current Liabilities

Provision for doubtful debts

Balance brought forward	4050	1620
Provision created	346	5160
LESS bad debts written off	(1168)	(2730)
Provision at 31 Dec. 1992	3228	4050

Note 8. Conservation Committee Account

SIROCREDIT Account S1.3

An Income and Expenditure Statement has not been prepared for the year ended 31 December 1992. The Deficit for the Conservation Account has been calculated as follows:

Balance in Account 31 December 1991	2270
LESS Account closed 2 July 1992 and paid into general account	10
DEFICIT FOR THE PERIOD	2260

REPORT BY THE CHIEF EDITOR
to the 24th Annual General Meeting

This report covers the period 1 January to 31 December 1992.

Journal

Production statistics for the *Journal of the Australian Entomological Society* during the period (with figures for 1991 in parentheses) were:

Manuscripts-		
received	68	(85)
accepted	78	(48)
rejected/withdrawn/lapsed	12	(19)
with Technical Editors	47	(66)
Pages ready for publication	192+	(208)

The number of manuscripts received during the year was down slightly from the record previous year. Acceptances were relatively constant through the year with enough material for the first two issues of 1993. Time to publication for a manuscript requiring minimal changes remains at about 1 year, comparing favourably with similar journals.

Volume 31 comprised the following parts:

Part	Published	Pages	Papers	Reviews
1	28 Feb	96	10	3
2	29 May	96	11	6
3	28 Aug	96	20	6
4	27 Nov	96	18	4

The total number of pages (384) was 16 pages more than in 1991 and the largest ever produced by the Society. The number of pages ready for publication will allow at least the first two parts of Volume 32 to be 96-page issues.

Publication schedules have been maintained and look like doing so for 1993.

Book reviews continue to perform a useful function in filling otherwise blank pages. No pages were left blank in Volume 31.

In general, the Journal remains in good shape with a constant flow of diverse manuscripts. As I said last year, journal content can only reflect what is submitted. I am happy to receive manuscripts on any aspect of Australian entomology and encourage all members to use the Journal for publication.

General

There were no changes to the Editorial Board in 1992. Graham White retired as a Technical Editor at the 1992 AGM. I thank Graham for his considerable input into the editing of manuscripts and for continuing to handle some manuscripts after he retired. Tony Wapshere was appointed by Council to fill the vacant position.

Alan Bishop, Ian Naumann and Tony Wapshere have given excellent service to the Society in their capacities of Technical Editors. I thank them for their input. The assistance of Jenny Allsopp as Editorial Assistant is greatly appreciated, as is the assistance of Ron Page of ATA Typesetters and Steve Gould of Watson-Ferguson.

Peter ALLSOPP
Chief Editor

NEWS BULLETIN EDITOR'S REPORT

I took over production of *Myrmecia* at the beginning of 1992 and have now produced six issues, Volume 28, Nos 1-4 and Volume 29 Nos 1 and 2. There have been some minor changes in the format of the Bulletin, brought about more through necessity than any other factor. The most obvious change is that the publication is physically smaller. This was done to enable the printer to use a standard paper size rather than to have to cut sheets to the desired size. The changeover of Editors appeared to be an appropriate time to make such an adjustment. This made a slight saving in the cost of production which was more than offset by the added cost of the photographs screened by the printer since I do not have access to these facilities. There are also additional freight costs between Sydney and Brisbane. On the other hand, page layout is done by the Editor and this no longer adds a cost to production.

The printing is still done by All Clear Offset Printers in Brisbane which has avoided any problems which may have arisen with a new printer in Sydney. I must acknowledge the assistance provided by Dean Brown, the proprietor of All Clear Offset Printers, who has been efficient, helpful and very reliable. I would also like to note my gratitude to Geoff Monteith who gave me great assistance during the changeover and made it possible for me to maintain a reasonable quality in the final product.

I congratulate all Regional Councillors for their

contributions during the last 18 months. Many have responded to my requests for photographs, special features and meeting deadlines. Although all have added interest and relevant information to each issue, I would like to make a particular mention of Peter Dostine's reports from the Top End which, in my opinion, strike the right balance between being entertaining and providing information. I am sure Peter's reports were read by more members than just those mentioned in the reports and I am sorry to see Peter retiring from the position after his allotted term.

I also appreciate the efforts of Ray Kumar and John Tenquist, our two overseas correspondents, who have the unenviable task of summarising in a few short paragraphs the major entomological activities in their respective countries of Papua New Guinea and New Zealand. We have a cooperative arrangement with New Zealand in that significant happenings reported in the State Regional Reports in *Myrmecia* are summarised and sent to John Tenquist who publishes them in *The Weta*, the News Bulletin of the Entomological Society of New Zealand. This was an arrangement established during Geoff Monteith's *Myrmecia* editorship and contributes in a small way to closer contact between our two countries.

Finally, I would like to pay tribute to the efforts of Angie Condello who has taken on the responsibility of preparing the printed copies of *Myrmecia* for mailing. This includes inserting relevant publicity material into each copy, inserting the copies into the envelopes, addressing each envelope (the printed address labels come from John Donaldson in Brisbane who does a sterling effort in keeping them up to date) and carrying out the fearsome task of bundling the envelopes into the groupings required by Australia Post to meet the Registered Publications regulations. We have also needed to monitor Australia Post's changeover to Print Post as Registered Publications are gradually phased out. This will eventually happen to us at the end of June 1994.

Production of *Myrmecia* is a rewarding task in many ways, not least the feeling of accomplishment each time an issue arrives from the printer. It has also proved a most effective, although perhaps not the easiest, way of keeping up with who is doing what around Australia. I am also keen to ensure that *Myrmecia* provides what the members want and am always open to suggestions for improving the publication.

A synopsis of costs, advertising revenue and page size for the four issues produced during 1992 is as follows:

Issue	Costs	Income	Pages
Vol 28(1) (Feb)	2549.39	50.00	37
Vol 28(2) (May)	2002.00	100.00	53
Vol 28(3) (Aug)	2229.45	60.00	29
Vol 28(4) (Nov)	1924.64	250.00	48
TOTALS	**8705.48**	**460.00**	**167**

This cost is just under $8 per page more expensive than Volume 27 (1991). This is partly due to the factors noted above, but also due to the generally smaller size and concomitant extra cost per page of postage and handling.

Murray FLETCHER
News Bulletin Editor

REPORT OF THE CONSERVATION COMMITTEE

The Conservation Committee currently has 15 members. Their service ranges from several months to several years. They are Alan Andersen, Genevieve Carruthers, Robin Coy, Peter Dostine, Gordon Friend, Robin Gunning, Lionel Hill, Paul Horne, Eric Matthews, Tim New, Geoff Williams, Phil Weinstein and Jonathan Majer. The Secretary, Paul Madge, and Vice President, Peter Allen, are *ex officio* members. These members bring a breadth of experience to the Committee and provide coverage in all States and the ACT and Northern Territory.

The Committee has been involved in four projects since the last AGM. One of these projects is continuing.

The continuing project is an attempt to construct a national database of official research projects relevant to the conservation of invertebrate wildlife in Australia. A questionnaire was recently sent to roughly 40 State and Federal agencies seeking preliminary data on invertebrate projects. Depending on the response, more detailed information may be sought from these agencies as well as from

the resources of Committee and general members. We plan to send another batch of questionnaires to Universities. The convenor, Lionel Hill, is seeking details of University departments that should be included.

Eventually the information will be reported in *Myrmecia* and to the agencies. The benefits are likely to be:

- better coordination of State and Federal programs,
- easier involvement of our members in invertebrate conservation, and
- stimulation of future funding of invertebrate conservation projects.

The Conservation Committee has sought to keep members informed of the sources of funds available to them for conservation research. Details of the Australian National Parks and Wildlife Service (now Australian Nature Conservation Agency, ANCA) programs have been reported in *Myrmecia* along with other information sources concerning official and non-government programs.

The three completed projects of the Committee are:

1. Detailed comment on a report by Alan Yen and Rhonda Butcher to ANCA entitled "An overview of the conservation status of non-marine invertebrates in Australia".
2. Brief comments to the NSW Threatened Species Network on their draft Bill "Threatened Species Conservation Bill 1992".
3. Comments to the Biological Diversity Advisory Committee on their draft National Strategy for the Conservation of Australia's Biological Diversity.

A few copies of these Committee reports are available from the Convenor.

In the latter two sets of comments we suggested many changes to ensure that invertebrate issues were not overlooked.

For the Alan Yen and Rhonda Butcher report we sought in much detail to assist the authors in their task of providing the prime national conservation agency (ANCA) with an authoritative document.

Interestingly the Committee's current project, which I mentioned earlier, seeks to complete the database of official projects that Alan and Rhonda were unable to complete for their report and which no official agency is likely to undertake quickly.

Lionel HILL
Convenor

REPORT OF THE BUSINESS MANAGER FOR VOLUME 31 AND THE YEAR 1992

Volume 31

Part 1 printed on 28/2/1992	96 pages
Part 2 printed on 29/5/1992	96 pages
Part 3 printed on 28/8/1992	96 pages
Part 4 printed on 27/11/1992	96 pages

Expenses

	Part 1	Part 2	Part 3	Part 4	TOTAL
Journal	4762.00	4762.00	4762.00	4762.00	19048.00
Reprints	516.20	498.80	398.40	382.80	1796.20
Postage	981.43	986.84	1008.85	1481.07	4458.19
Type-setting	2610.50	2340.80	3755.80	3508.00	12215.10
TOTAL	**8870.13**	**8588.44**	**9925.05**	**10133.87**	**37517.49**

Income

	Part 1	Part 2	Part 3	Part 4	TOTAL
Reprints	3440.00	3356.42	2829.71	2027.00	11653.13
Subscriptions					20470.36
TOTAL					**32123.49**

Deficit for Volume 31 $5394.00

Geoff CLARKE
Business Manager

24th ANNUAL CONFERENCE ORGANISING COMMITTEE REPORT

The 24th Annual General Meeting and Scientific Conference was held in Cairns, North Queensland from 3-8 July 1993. The Conference venue was the Joseph Banks Room at the Matson Plaza Hotel, a moderately priced resort well placed on the Esplanade close to the centre of Cairns. The conference was very well attended with a total of 203 delegates preregistered and an additional 10 day registrants for a total of 213. Delegates converged from every Australian State and Territory and Papua New Guinea. The breakdown of the registrants was 145 full members, 38 students, 20 non-members and 10 single day registrations. About half the delegates stayed at the venue, and 20+ at student accommodation, the rest finding a variety of rooms around town. Over 90 talks

and 38 posters were presented.

Day 1 was taken up with the annual meeting of the Council of Heads of Australian Entomological Collections, also held at the Matson, and with general registrations throughout the day. Most delegates checked in late in the afternoon. A casual hour or so of drinks (well attended) was held in the downstairs bar before people obtained more substantial sustenance in the city's variety of restaurants.

Day 2 was the official opening and start of the scientific sessions. Convened by the Society President Gordon Hooper, the opening address was given by local MLA and Queensland Treasurer the Hon. Keith Delacy. The first session of the day, Entomology and Health in the Tropics featured an invited address from Brian Kay entitled "Entomology and Health in the Tropics".

Morning tea was followed by the major session of the conference entitled Biological Control versus Conservation. The session contained 4 invited papers, with the opening address by the major sponsored speaker, Prof. Michael Samways from Pietermaritzburg, South Africa. Entitled "Making insect conservation and pest management work together", the talk brought up many interesting ideas and provided stimulation for all delegates present.

The post lunch sessions continued on the biocontrol theme with Biological Control of Weeds (invited address "Biological control of weeds in northern Australia", by Ken Harley and Colin Wilson) followed by Biological control of Insect Pests (invited address "Biological Control of invasive pests in Oceania and Australia's near north", by Doug Waterhouse). Many of the talks were on tropical situations so provided invaluable information for local entomologists in attendance.

Day 3 was excursion day which involved a bus tour of the Atherton Tablelands. The bus headed south in the morning then up the Gillies Highway to Lake Eacham for morning tea. On route Tony Irvine from the CSIRO Tropical Forest Research Centre in Atherton gave a talk on the geology and natural history of the area. Next stop was the Curtain Fig Tree at which time John Kilpatrick and Rhino Johnson from QDPI's Kairi Research Station were picked up for talks on the areas agriculture.

Lunch at QDPI's Mareeba office featured displays of live and pinned local insects and poster displays of various research programs. Finally an enjoyable visit to the Kuranda Butterfly Sanctuary was followed by a sumptuous repast of scones and a return to Cairns.

Day 4 started at 6.45 when 9 enthusiastic (?) runners took part in the annual Fun Run. Only males were brave enough to tackle the five gruelling kilometres along the Esplanade in warm drizzle and most actually made it back to the finish line. Victory fell to Andrew Henderson in 17 minutes 35 seconds but perhaps second place Rieks van Klinken 8 seconds later was held back by running barefoot. Jonathan Majer and David Dall ran a dead heat for third and the CSIRO Mothballs (Narrabri) took out the team event.

Concurrent sessions were necessary on Day 4 due to the large number of submitted papers. Insect Ecology was opened by Rhonda Jones giving an address entitled "Are tropical insects different?". This was the longest session of the conference with 23 talks including that of the winning student, of the Phil Carne Prize entitled "Feeding lesions and the saliva of Hemiptera: how bugs obtain nutrients from their host plants" by Gary Taylor of the Waite Institute. The Biodiversity and Taxonomy session also showed strong interest with 17 talks led by Geoff Monteith's interesting account of his north Queensland studies, "Patterns of insect richness in the Queensland Wet Tropics". Also featured on Day 4 were poster displays, the conference photographs, insect illustration competition winners, first launch by Doug Waterhouse of the latest Zoological Catalogue of Australia (Vol. 10: Apoidea by Joe Cardale) and the society's AGM.

This very full day was brought to an end by the Annual Dinner. Held at the Cairns Hilton on the harbour, the 180+ people who attended all came away with smiles and many carried on until the wee small hours with well lubricated discussions.

Day 5, the final for 1993 was dominated by Insect Pest Management. The 16 talks were led by Geoff Norton and Elaine Brough's "Insect pest management in the tropics: opportunities and prospects for co-operative research". The day was completed by a General Entomology

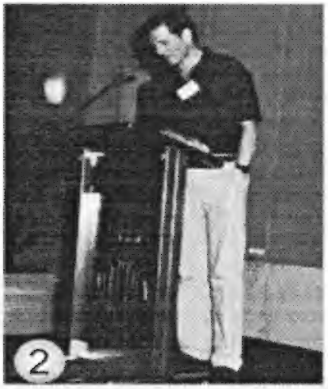
AES CONFERENCE CAIRNS - Official Photographs

The 1993 Executive (L to R): Paul Madge, Peter Allen, Ian Naumann, Gordon Hooper, John Jennings, Murray Fletcher, Peter Allsopp.

24th AGM Organising Committee (L to R): Marie Ablin, Richard Piper, Chris Hill, Prof. Michael Samways (invited speaker), Ross Storey, Harry Fay, Keith Chandler.

AES CONFERENCE CAIRNS

AUSTRALIAN ENTOMOLOGICAL SOCIETY CONFERENCE & 24TH A.G.M. CAIRNS 1993



1. Gary Taylor, the 1993 Phil Carne Prize winner, presenting his paper to the 24th Scientific Conference; 2. Harry Fay makes some announcements during the annual dinner; 3. Geoff Monteith displays the new headstone on F.P. Dodd's grave at Kuranda, during the excursion; 4. Tony Irvine explains the morphology of a curtain fig during the excursion.

AES CONFERENCE CAIRNS

1. Ebbe Nielsen, Ian Naumann, Peter and Jill Allen and Paul Wellings enjoy a laugh over pre-dinner drinks; 2. Gordon Hooper and Geoff Monteith admire a grass grasshopper; 3. A toast to the photographer; 4. Penny Gullan, Mali Malipatil and John Donaldson talking Hemiptera; 5. Jonathan Majer makes a point; 6. Members enjoying the dinner; 7. John Macdonald explains his giant blueberry to Elizabeth Exley; 8. On the Excursion, members inspect the displays set up at Mareeba.

session and more posters. The lucky people to give the last talk were the NAQS ladies, Judy Grimshaw and Barbara Waterhouse who talked about their quarantine work in Torres Strait. This entertaining and informative talk was well worth the wait and a suitable end to the first AES conference in the tropics.

In addition to being a successful and well attended conference the 1993 meeting ended any doubts that the less populated centres many kilometres from the capital cities do not have the manpower or infrastructure to organise a successful conference. Indeed none of the committee was based in Cairns and the only entomologist based in Cairns was unable to get involved because of work commitments.

Despite the obvious problems, the members of the committee, composed of Ross Storey (Chairman), Marie Ablin (Secretary), Keith Chandler (Treasurer), Harry Fay (Scientific Sessions), Richard Piper (Sponsorship) and Chris Hill (Competitions), were able to provide (via long hours and hard work) a highly successful conference. It is hoped that other less populated areas will follow their example and help society members reach other parts of this large diverse country.

The committee received generous help from many hard working people. Special thanks go to Keith Halfpapp and Stefano DeFaveri who made the slides and overheads run smoothly. Fifteen groups or companies provided generous sponsorship. The major sponsor was the Queensland Department of Primary Industries who were largely responsible for the funds provided to sponsor Prof. Samways and whose staff helped in many other ways.

Ross I. STOREY
Convenor
Organising Committee

Shelley Rozario gets to know a local at the Kuranda Butterfly Farm on the excursion.

4th Annual Meeting of CHAEC Summary of Minutes

The 4th Annual meeting of the Council of Heads of Australian Entomological Collections was held in Cairns immediately preceding the AES Conference. Members attending were Andy Austin (Waite Campus, Univ. of Adelaide), Trevor Crosby (New Zealand Arthropod Collection), John Donaldson (QDPI, Indooroopilly), Bob Eldridge (NSW Forestry Commission), Murray Fletcher (BCRI, Rydalmere), Mali Malipatil (Victorian Agric. Insect Coll.), Geoff Monteith (Qld Museum), Max Moulds (Aust. Museum, Sydney), Ebbe Nielsen (ANIC), Margaret Schneider (Univ. Qld, CHAEC CHAIRMAN), Ross Storey (QDPI, Mareeba). In addition Fred Dori (Dept Agric. Livestock, PNG) and Keith Houston (ABRS) were present as observers.

Correspondence

1. To Hon. Ros Kelly MP, Minister for the Environment, Sports and Territories, expressing CHAEC's concern over cuts in funding to ABRS. Reply stated that the Government "will continue to examine options for improving the funding levels provided for the ABRS in future budgets".
2. From John Jessop, Chairman, Council of Heads of Australian Herbaria, extending an invitation to CHAEC to send an observer to their AGM in Adelaide in October. Andy Austin will represent CHAEC.
3. From Bryan Cantrell, Secretary, Plant Health Committee of SCARM regarding the need to create an awareness in SCARM of the financial and other resource needs of national agricultural collections; request that CHAEC prepare an information paper.

Reports from Collections

Australian Museum

Max Moulds reported that AM now has computer facilities and that TITAN would be available in the near future. Type holdings will be databased first. Rudi Mulder's beetle collection has recently been acquired by the Museum. Staffing and funding levels were being maintained. The "Gargantuans in the Garden" exhibition was very successful. The Entomology Department has been undertaking extensive pitfall trapping in NE NSW.

Forestry Commission of NSW Insect Collection

Bob Eldridge tabled a report detailing the size and scope of the collections, highlighting its specialisations in larval insects and Isoptera. Approximately 20,000 collections of soil and litter fauna await sorting. A reference collection of frass from identified and identifiable insects and a database of the collection was being compiled, although recent staff cutbacks with the Commission have severely restricted activity in these areas.

Queensland DPI, Indooroopilly

John Donaldson reported that the standard of the collections is starting to deteriorate owing to a lack of technical assistance, very little material is being added to the collection, identifications are slow and databasing is at a standstill. Great concern was expressed over the long term future of the collection, which is considered to be very valuable. Other members also expressed their concern at the number of identifications they were now doing for Queensland due to the cutbacks to the QDPI Taxonomy Group. The future of the collections at Mareeba and the Queensland Forest Service was also raised as a matter of concern. It was agreed that the Chairman should write to the Minister expressing these concerns. One positive point was the assignment of Marlene Elson Harris to the collection four days per week.

Queensland DPI, Mareeba

Ross Storey reported that the collection now had about 50,000 specimens with addition material being added as a result of the CYPLUS program. He expressed concern about the collection's future when he leaves.

NSW Agriculture, BCRI, Rydalmere

Murray Fletcher reported that the BCRI administration is supportive of the collection and that funding was adequate. The retirement of E. Schicha has meant that research on mites has ceased, although identifications were still being carried out. The Institute now had an internal computer network and the reprint collection was now computer indexed and loans are now computerised.

Victorian Agricultural Insect Collection

Mali Malipatil reported that TITAN databasing continues. He then discussed the closure of the Institute of Plant Sciences which has left the taxonomists in a state of limbo undergoing yet another review. Material is still being added to the collection, especially from citrus work, and Mali is particularly busy with Western flower thrips.

ABRS

Keith Houston reported that there will be fewer grants due to the lower levels of funding. ABRS now has its full recommended staff level and the results of the ABRS review were published in *Biologue* (No.13, Feb. 1993). Keith outlined progress with the *Zoological Catalogue*, tabling a copy of the just-published No.10 (Apoidea) and indicating that the next volumes to appear

will be Collembola, Protura, Diplura and the first Heteroptera volume.

University of Queensland

Margaret Schneider reported that Gordon Gordh is very supportive of the collection and has provided more space in the main collection room. The reprint collection is being computer catalogued and databasing of specimens is proceeding slowly.

Queensland Museum

Geoff Monteith reported that staffing levels were stable, although a two and a half year exchange between Ted Dahms and Kevin Lambkin was underway. Rainforest trapping continues with support from Rainforest Conservation funds. There has been a noticeable increase in the numbers of enquiries because the staff reductions at QDPI meant that fewer enquiries were being handled there. A very successful program of entomology workshops with school teachers and visits to schools, especially in remote areas, has been established.

ANIC

Ebbe Nielsen reported the commencement of a new program investigating soil organisms. Ongoing field programs include the CYPLUS and SA Mallee surveys. ANIC has acquired the H. Uther Baker weevil collection. Work on the backlog of bulk samples is increasing. A manual for the ANIC database has been produced and funding is now available for major software upgrade. *ANIC News* is assisting in communication. Three volumes of Zimmerman's weevils will be out this year. *Invertebrate Taxonomy* will be partnered with a new monograph series called *Monographs on Invertebrate Taxonomy*, the first of which will be S.P. Kim's Lauxaniidae work. All ANIC staff are now EMAILed. ANIC, Griffith University and James Cook University are participants in the CRC for Tropical Rainforest Research and a new lecturing position in systematic entomology will be established at James Cook. ANIC will soon be subject to a review.

The 4th Annual Meeting of CHAEC (L to R): Trevor Crosby (NZAC), Fred Dori (CRIC, PNG), Max Moulds (AMSA), Andy Austin (WARI), Margaret Schneider (UQIC), Ebbe Nielsen (ANIC), Bob Eldridge (FCNI), Murray Fletcher (BCRI), Keith Houston (ABRS), John Donaldson (QDPI), Mali Malipatil (VAIC), Geoff Monteith (QMBA) Ross Storey (QDPI, Mareeba).

University of Adelaide and
SA Dept of Primary Industries

Andy Austin reported that these two collections will merge in the first half of 1994, following the relocation of DPI to the Waite Campus. There are currently six staff associated with the two University collections, four of whom are postgraduate students. The University collection is primarily a synoptic agricultural collection for SA, with strong emphasis on Coccoidea and groups associated with biological control, particularly parasitic Hymenoptera. The DPI collection is used primarily for agricultural and quarantine identifications. From the beginning of 1994 the collection will lose its curatorial assistance due to reduced funding of the Department. Curatorial duties and loan requests will then be handled by the curator (Andy Austin) with limited assistance from grant-funded staff.

Macleay Museum

Woody Horning (*in absentia*) sent a report indicating that there has been little activity since last August, partly because Woody has been Acting Director. A collection of about 15,000 small Coleoptera (Staphylinidae, Pselaphidae, Scydmaenidae) and ants has been received from Tom Gush. Each labelled specimen has a collection number and there is an associated ecological database. The Vice Chancellor has announced a new review of the Museum. The terms of reference include a reduction in the size of the collection since the University cannot increase funds or space, which are currently inadequate. The review will also look at the collection policy, the potential role of the Museum in training students of the Museum Studies Unit and its role in public relations. The review may lead to the transfer of the insect collection, in whole or part, to other Institutions within Australia. Woody also announced that he will be retiring in September 1994.

Tasmanian State Invertebrate Collection (TSIC)

Dick Bashford (*in absentia*) sent a report covering the collections in Tasmania. The TSIC is still working on legislative protection for non-Museum collections. The Tasmanian Curators Group now includes a representative of Inland Fisheries and Parks and Wildlife have also been invited to join. There is concern that voucher specimens from collections made in Tasmania are not being returned to Tasmanian collections, as required by permits. The presence of a Parks and Wildlife representative will assist in encouraging permit holders to return material to local collections. A Statewide invertebrate database is being established in TITAN at Queen Victoria Museum (QVM) under the direction of Tim Kingston and communication systems to facilitate data transfer between organisations are being organised. A Tasmanian invertebrate newsletter, which will include records of new species, unusual occurrences and general items of interest, is being established under the editorship of Brian Smith at QVM.

South Australian Museum

Eric Matthews (*in absentia*) sent a report indicating no change at SAM in organisation or personnel. Since the last CHAEC meeting a Review has been completed and no recommendations affecting the Museum were made. The South Australian Public Service is attempting to eliminate positions through "Targeted Separation Packages" but no Museum positions have been targeted. Field work in the mallee and Central Australia has added to the collections, as have pitfall traps laid in conjunction with vertebrate survey work. An assistant has been assigned to Entomology one day per week to help sort this material and volunteers provide much assistance. A new volunteer is Peter Kolesik who is interested in the biology and taxonomy of gall midges. The present course seems set to continue for the indefinite future: minimal funding and staffing by an impoverished government and increasing dependence on the unpaid services of volunteers and retirees.

PNG Dept of Agriculture & Livestock (DAL)

Fred Dori tabled a report detailing the several entomological collections held within six research institutions in PNG. the Central Reference Insect Collection (CRIC) held at DAL is the largest and most comprehensive. It also holds primary types. Since 1987 CRIC has been in a state of neglect and subjected to continuing exposure to deterioration through excessive moisture and theft. It has not served its purpose fully as a reference collection. Curation and

indexing has become a thing of the past. Lately specimens have had to be discarded due to mould damage. There is no technical curator available. There is no taxonomist available to undertake identifications or to coordinate materials for identification elsewhere. To try to remedy some of these problems, an internal reorganisation will soon be undertaken. This should strengthen the crop protection service and bring CRIC under the responsibility of Entomology again. PNG still needs assistance with identifications, particularly because of the enormous cost of having material identified by IIE in London. An examination of assistance available through Australian aid agencies, particularly possible bilateral arrangements with Australian Institutions, is being undertaken.

NZ Arthropod Collection (NZAC)

Trevor Crosby reported on the significant changes over the last few years in the way NZAC has been funded and in the organisation responsible for it. DSIR, MAFTech and FRI have been reorganised into 10 crown research institutes. NZAC is now part of a company called Landcare Research NZ Ltd - Manaaki Whenua. A covenant has been placed on the collection so it cannot be disposed of. The new organisation brings together all the significant natural history collections and databases, and these are now in a new team called "Databases, collections and information products". Funding is via a pool of contestible Public Good Science Funding (PGSF). The collections are now in their 3rd and final year of "long-term funding", and a new bidding round is approaching. There is now talk of taking collections funding out of PGSF and giving more permanence to their funding. Landcare Research is supporting biosystematics research and the collections as much as possible. The company also has databases dealing with land management, satellite images and physical features. The NZAC database is being integrated with these physical databases with the long-term goal of establishing something for New Zealand which is similar to Australia's ERIN setup.

Other matters

Discussion and reports on the following topics were also covered at the meeting.

A proposed Council of the Heads of Australian Fauna Collections and how this would fit with CHAEC, the Council of Australian Museum Directors and other entities.

Standardising databasing worldwide is looking to using the ANIC system as the standard. Access to database information was discussed, as was the possibility of establishing an Australian Bibliographic Database.

Standard acronyms for collections were discussed and a standardised list has been circulated to member collections.

Ebbe Nielsen reported on recent meetings of CAMD, Systematic Entomology Meeting, and Bionet. He also discussed recent world initiatives, including ATBI, Systematics Agenda 2000, UNEP taxosphere.

A proposal to increase coordination between the agricultural collections in Australia is currently being considered by SCARM. CHAEC has been asked to prepare a paper which would cover the scope, condition, staffing, resource needs and operating costs of the national agricultural collections. This will assist PHC to create an awareness of the value and needs of the collections.

Use of GPS devices was encouraged to increase the accuracy of collection data. The ANIC system of indicating that a GPS device was used by including an annotation on specimen labels should be adopted as standard.

Another curatorial workshop will be held at ANIC, 20-24 September 1993. The Council extended congratulations to ANIC for the excellence of the previous course. It was suggested that CHAEC could coordinate special identification workshops, e.g. one on Hemiptera pests.

Summary by
Murray FLETCHER
BCRI, Rydalmere

AES Research Grant Report

Report to the Executive on field work to collect cardiochiline wasps in central and northern Australia.

PAUL C. DANGERFIELD
University of Adelaide, Glen Osmond, SA.

The overall aims of my PhD project are to complete a taxonomic revision of the Australasian species of Cardiochilinae (Hymenoptera, Braconidae) and provide a preliminary phylogenetic analysis for the world fauna at generic level. Cardiochilines are a small but world-wide group of braconid wasps which are endoparasitic on lepidopteran larvae. Work to date has revealed the presence of at least 20 species of *Cardiochiles* in the Australasian region. Two areas of Australia, in particular, show apparently high levels of endemicity: the Areyonga region of the Macdonnell Ranges and the Darwin-Kakadu-Coburg Peninsula region. Preliminary studies also indicate that the Australasian fauna has a significant potential diversity at generic level and, in this respect, the species recorded from the Areyonga and Darwin-Kakadu-Coburg Peninsular regions are most critical. However, species from these two regions are represented by very limited material (several by only one specimen) and this is hampering assessment of inter- and intraspecific variability of about half the Australian species so far identified. Hence, to facilitate the successful completion of the project, it was essential that I undertake fieldwork to collect in these two areas of the continent. Previously collected specimens from these localities best overlap in time (collecting date) during October/November and so the fieldwork was scheduled for early November.

Paul Dangerfield in Litchfield National Park with magnetic termite nest.

The following report outlines the major sites and localities collected and provides a general impression of their insect diversity at that time of year.

Departing Adelaide with three other people we ventured north, stopping firstly at Glendambo for nightfall and spending the second night on Lassiters Highway 5km west of Erldunda. Light trapping there in the low sand dunes brought in several orders of insects but particularly large numbers of aquatic Coleoptera and Hemiptera. Then following the Lassiters Highway to Erldunda, we swept the roadside vegetation every 100km and also areas in between that seemed different in vegetation type. At one site 190km from Yulara a stand of *Eremophila sturtii* was in early fresh flower and covered with insects, including a complex of wasps of very similar appearance that represented four different families; one of these has turned out to be a new species of *Cardiochiles*.

We then continued on to the Henbury Meteorite Crater, a very barren stony area with very little vegetation. Sweeping in the sparse low scrub, we discovered a wide variety of insects, which was surprising considering the hot dry desolate appearance of the area. From there we travelled on to Kings Canyon and, after speaking to the Rangers, set up a light trap in the picnic ground directed into the

canyon. Unfortunately, very little was collected as the wind rose at dusk and inhibited insects from coming into the light.

From Kings Canyon we wanted to make our way to the Areyonga region, which was either 400km via Alice Springs or 100km on a rougher yet more direct track. Having spoken to some locals we felt confident that we could successfully traverse the direct route. The track first led us from the Lassiters Highway to Tempe Downs, a place "screaming" with cicadas but appearing to harbour very little else. The track wound in and out of creek beds and, at one of the Illarra Creek crossings, we sank up to the axles in the very fine deep dry river sand. It took us three hours to unload and make a road to the other side, 30 metres away. We finally escaped the creek bed and set up camp in the hills on the other side. Unfortunately, again, collecting in this area was rather poor with very little diversity present at this time of year. The next day saw the road change from sandy creek beds to very rough rocky terrain, the road being the creek bed itself. This was extremely difficult travelling, but challenging driving. We knew there was no turning back through the soft sand that had taken us so long to pass. Finally reaching the Areyonga region we found yet again a very rocky hilly dry sparsely vegetated area with nothing but ants on the vegetation present. Disappointed and weary from hard driving we headed into Alice Springs, replenished supplies and fixed the damage to the trailer that had been sustained on the rough roads.

We took the opportunity to set up a malaise trap in the grounds of the CSIRO station and went light trapping at Simpson's Gap. After a second night in Alice we made a direct route for Darwin, stopping at the Devils Marbles the first night and Katherine the next. Light trapping and sweeping at Devils Marbles revealed an interesting species of *Diolcogaster*, a genus of Microgastrinae and closely related to *Cardiochiles*. Just north of Katherine, we visited Edith Falls to set up a malaise trap and pan traps in the dry sclerophyll and semi-tropical forest. We spent the next two days in Darwin visiting patches of coastal forest and setting up two malaise traps and pan traps at Wangi Falls, Litchfield National Park, one in rainforest and one in eucalypt scrub.

We stayed as guests of the Museum in Darwin in one of their air-conditioned cabins at the back of the main building. This gave us a chance to sort some trap catches and here we first perceived that the "centre" was possibly richer in insects at this time of year than the northern tropical areas. Next we headed east to Kakadu National Park, with the hope of better collecting. We stayed at Nourlangie Camp in the middle of a patch of monsoonal rainforest. Here light trapping, a malaise trap and sweeping revealed a substantial insect fauna, though we had problems with green tree ants, *Oecophylla*, invading our traps.

On our return journey we detoured to Hermansburg, a very hot, dry, desolate town at this time of the year. Then on to Palm Valley and, with a friendly reception from the ranger, we camped and set up a light trap in the valley itself, amongst the relict flora of cycads and palms. Light trapping brought in many aquatic insects, sphingids and hepialids, along with many Coleoptera, Diptera, Neuroptera but few parasitic wasps. Unfortunately, sweeping vegetation the next morning also resulted in poor collection of Hymenoptera.

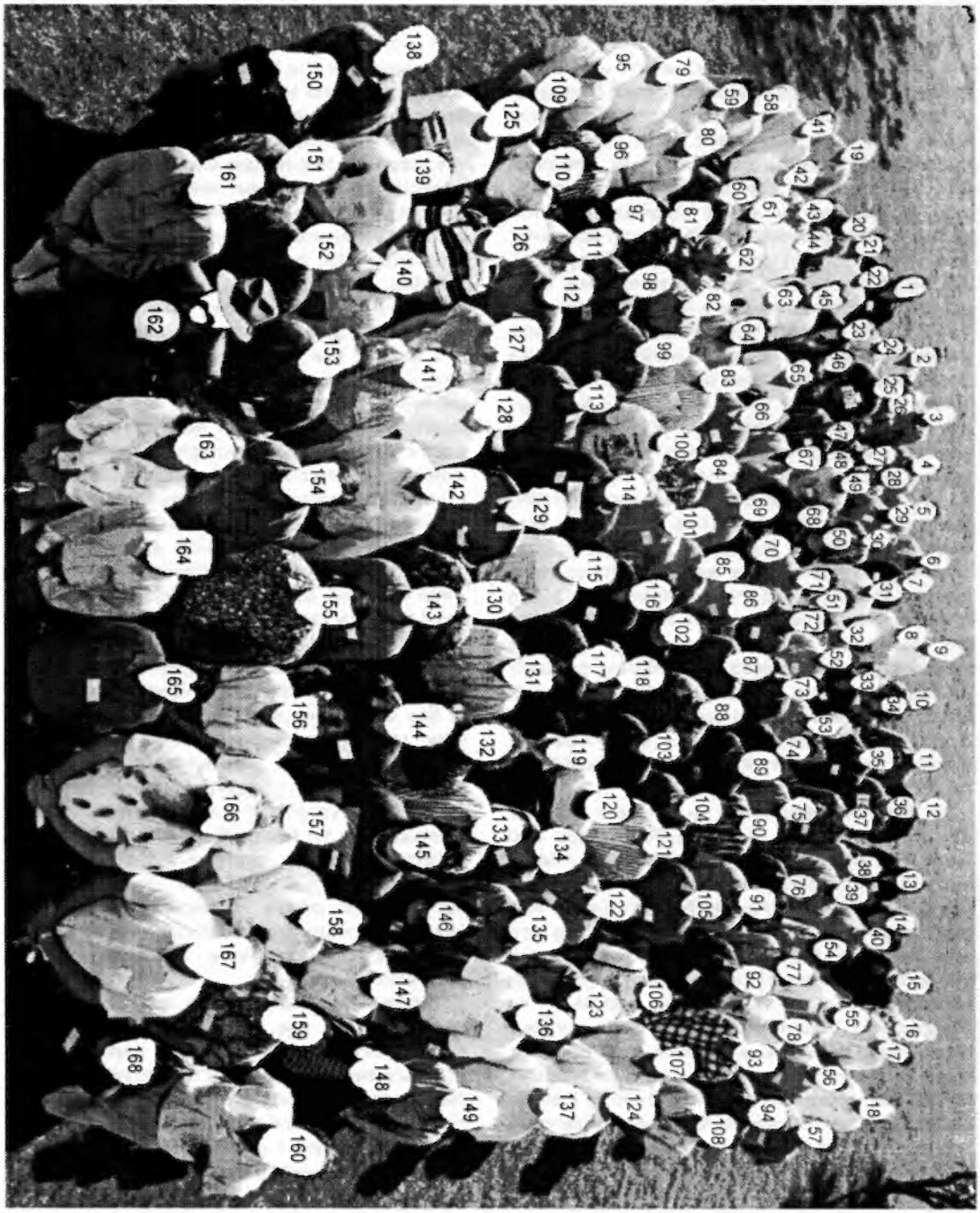
We revisited our only "cardiochiline" site on the Lassiters Highway, to find that the wasps had virtually disappeared and that the insect fauna at flowers was quite different. We set up a malaise trap at this site and spent two nights in the area sweeping and light trapping. We now concentrated our collecting efforts at flowering plants but, unfortunately, we had very little success with parasitic Hymenoptera.

After 23 days on the road we arrived back in Adelaide on 17 November. Although we had collected large numbers of insects, unfortunately we had not increased the numbers of poorly collected cardiochiline species from key areas, although we had found a series of specimens belonging to an undescribed species.

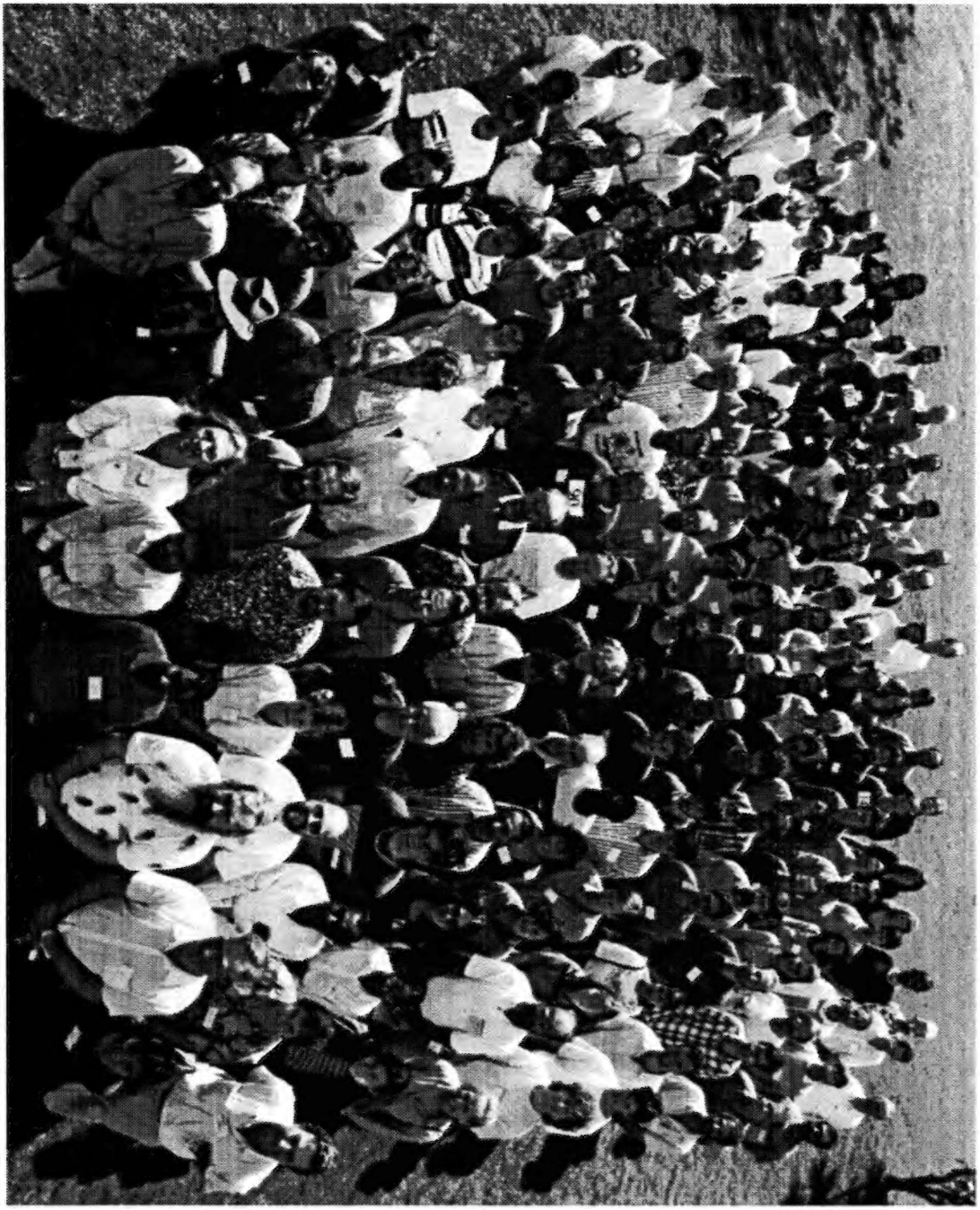
This field trip provided me with an excellent opportunity to see, first hand, some of the habitats occupied by the wasps I am studying.

I would like to thank AES for providing part of the funds to undertake this field work, and Frances FitzGibbon, Janine Lloyd and Andy Austin for making it an interesting journey and helping in my quest for cardiochiline specimens.

24th CONFERENCE PHOTO (see P 34 for key)



24th CONFERENCE PHOTO



24th CONFERENCE PHOTO

1. Paul Bailey
2. Graham White
3. Merv Bengston
4. Russell Cant
5. Shaun Hood
6. Paul Madge
7. Michael Braby
8. unknown
9. Peter Allen
10. Joan Bryan
11. Brian Roberts
12. David Dall
13. Marina Hurley
14. Marie-Louise Johnson
15. Grant Farrell
16. Seamus Ward
17. Phil Weinstein
18. John Madden
19. David Hancock
20. John Brown
21. Jane Elek
22. Ross Storey
23. Keith Halfpapp
24. Bernie Franzmann
25. Ian Titmarsh
26. Elain Brough
27. Ian Cunningham
28. Judy Grimshaw
29. Fred Dori
30. Barbara Waterhouse
31. Doug Waterhouse
32. Margaret Spencer
33. Helmut Saucke
34. Kathy Lefevere
35. Mike Tichon
36. Michael Ryan
37. Paul Wellings
38. Melina Miles
39. Gary Fitt
40. David Sparks
41. Gordon Simpson
42. Brett Melbourne
43. Lyn Cook
44. Kendi Davies
45. Rieks Van Klinken
46. Wayne Rochester
47. Wendy Forno
48. Ruth Huwer
49. Tony Wright
50. Pamela Hurst
51. Rhondda Jones
52. Lewis Wilson
53. Cheryl Mares
54. Joanne Daly
55. Peter Room
56. Don Sands
57. Peter Samson
58. Graeme Baker
59. Chris Freebairn
60. Scott Field
61. Brian Fletcher
62. Jörg Kitt
63. Lynne Johnson
64. Dan Papacek
65. David Logan
66. Michael Samways
67. Lastus Kuniata
68. Richard Vickers
69. Geoff Allen
70. Vicki Bates
71. Andrew Henderson
72. Alan York
73. Jeffrey Watson
74. Mark Newton
75. David Merritt
76. Des Foley
77. Angela Nesic
78. Peter Gregg
79. Tony Clarke
80. Geoff Norton
81. Paula Myatt
82. Rod Mahon
83. Keith Wardhaugh
84. Mal Arney
85. Martin Steinbauer
86. Kay Watson
87. Andy Beattie
88. Mike Cole
89. unknown
90. Frank Page
91. Peter Allsopp
92. John Rogers
93. Martin Dillon
94. Michael Storrs
95. Gordon Gordh
96. Rob Floyd
97. Jan Green
98. Roger Farrow
99. John Donaldson
100. Jonathan Majer
101. David Wool
102. Kaye Hergstrom
103. Shaun Winterton
104. Jamie Seymour
105. Bruno Pinese
106. Veronica Brancatini
107. Matthew Purcell
108. Richard Bull
109. Manju Prasad
110. Rennie Roesli
111. Chris Hill
112. Richard Piper
113. Max Moulds
114. Tony Irvine
115. Mike Jefferies
116. Gary Taylor
117. Gordon Hooper
118. Nicky Agelopoulos
119. Ken Harley
120. Robert Mensah
121. Dieter Hochuli
122. Keith Houston
123. Kathryn Patterson
124. Michael Ross
125. unknown
126. Dr Koda
127. Marie Ablin
128. Manon Griffith
129. Vance Brown
130. Ted Fenner
131. Jan Breithaupt
132. Peter Cranston
133. David Yeates
134. Lou Rodgerson
135. Lesley Hughes
136. Joe Balciunas
137. Alastair Hunt
138. Harry Fay
139. Ian Naumann
140. Elizabeth Exley
141. Margaret Schneider
142. Greg Daniels
143. Jon Hardy
144. Tony Watson
145. Damien Burrows
146. Penny Gullan
147. Shelley Rozario
148. Supawan Kianmatee
149. Lisa Bird
150. Glynn Maynard
151. Jo Cardale
152. Peter Davis
153. John Jennings
154. Bob Eldridge
155. John Osmelak
156. Marian Chisholm
157. Richard Faulder
158. Mali Malipatil
159. Gina Dillon
160. Keith Chandler
161. Geoff Monteith
162. Richard Sejsak
163. Paul Dangerfield
164. Azhar Saeed
165. Wanja Kinuthia
166. Murray Fletcher
167. Alan Cliff
168. Alice Del Socorro

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

The most riveting matter concerning the Division of Entomology at the time of writing is the result of a review of our scientific research, expected imminently. Fortunately for the taxonomy section, Ebbe Nielsen had just visited The Natural History Museum, as a reviewer of their entomological activities, and was able to advise us novices on some of the potential pitfalls. Ron McGinley (Smithsonian) and Jean Juste (A.B.R.S.) were the external reviewers for the research of the Taxonomy and General Biology section. This somewhat daunting exercise took place shortly after the exodus returned from the Cairns meeting.

A lingering memory of the Cairns meeting was the gulf between the scientific presentations of the students and the seniors. There was a strong contingent from the Australian National University: honours students Kendi Davies, Brett Melbourne and Alastair Hunt and PhD student Lyn Cook gave excellent presentations, as did the contingent from Macquarie University. I must say I prefer the professionalism and time-keeping encouraged in the American tertiary education system than the image of rambling disorganisation that the English system has fostered. Much of the ANU contingent travelled to and from Cairns by road following (or precipitating) the end of the drought through northern New South Wales and central Queensland. Lyn Cook had the only collecting successes, with many more *Apiomorpha* galls than the esky could hold: Jo Berry wasn't enthralled by the hymenopteran collecting and as for chironomids - where was the water ?

Amongst the newly started (mid-year) honours projects at ANU are two entomological ones: Louise Smith is looking at *Teleogryllus commodus* for a relationship between effective cost of calling, individual variation in calling and female preference, under the supervision of Paul Cooper. Stephen Loiterton is examining the foraging behaviour of sit-and-wait predators, using antlions as his experimental animal; Rob Magrath supervises this project. Amongst the February-start group of honours students, Mick Smith has returned from the field programme in Kakadu to the task of identifying all the aquatic insects from acid-polluted Rockhole Mine Creek - I guess some chironomids might find their way onto my desk any day.

Some things have not changed since I last reported for Myrmecia in 1991: Ebbe still lives out of a suitcase, travelling now to Denmark and the Natural History Museum (once again - is he drawing two salaries ?), Marianne Horak is now in Europe dissecting hundreds of moth genitalia and Geoff Clarke has been in USA and the ex-Soviet Union, looking at what the previous administration of that State did (or allowed to happen) to the environment. Dave Rentz is orthopterising in Hawaii and the United States until the end of August. He'll return to find Jeff Lockwood in residence, taking a six-month break from the University of Wyoming to study gryllacridid sounds, chemical communication and other orthopteroid matters as a Visiting Fellow at ANU but based in CSIRO. Another long-term visitor, Nobutoyo Koda who has been studying Noctuidae, returns to Japan soon. The Hymenopterists have been blessed with some hours of Ron McGinley's brief visit, and the longer duration company of Jim Whitfield from Arkansas studying braconids.

Travel by CSIRO staff and associates within Australia include several trips to Cape York on the CYPLUS project: Ian Naumann, Alison Roach and John Balderson have visited. Alison was unimpressed by the nocturnal threats of crocs, wild cattle and pigs, suggesting that a stroll across ANU campus was more threatening: anyway she collected a nice new *Hexacentrus* katydid which impressed Dave Rentz and established her credentials as a field orthopterist (by day, at least). Ted Edwards escaped the early winter in Canberra to spend a month in the Northern Territory. John Trueman and Pete Cranston experienced the vagaries of the Australian climate, visiting Tasmania for a "winter" biodiversity sample, but basking in Mediterranean temperatures and viewing dried up ponds. John is assisted by Wendy Lee in picking and counting the untold (so-far) arthropod biodiversity. So far, Jo Berry's hymenopteran identifications outnumber Penny Greenslade's collembolans in species richness but little word on the endemism component.

Penny Greenslade has been so busy that this correspondent has lost track of her activities: certainly she attended and gave papers at the

Queensland Museum meeting on Invertebrate Conservation. There may be a pause whilst she travels overseas for a period, then I'm sure her conservation activities will recommence. Your previous correspondent Steve Shattuck tells me he has no news for Myrmecia, but I'm sure he won't object to news of parenthood for Kathy Smith and Steve being promulgated - congratulations.

The big news from the ANIC publicity department is the launch of John Lawrence's interactive key to beetle larvae of the world in the form of a CD-ROM and Dave Rentz's first CD of tettigoniid song (though is "song" appropriate to your average CD purchaser expecting Yothu Yindi or Joan Sutherland ?).

There have been many shuffles of staff, particularly in the support area and databasing, for example, Ian Reid has been appointed to the Aphid Database project and Judith Hull has been moved to provide support to Ebbe. Commensurate with this has been movement of personnel, offices and chairs, with partition construction a boom industry.

You may wonder with all this motion, whether any research has been going on: there must have been something to tell the review. Well, the Division has just released the "Report of Research" for the period June 1991-June 1993 and 40 pages are devoted to the Taxonomy and General Biology Section. I won't review it here (copies available on application) but note that quite a few conventional ink-on-paper publications have been produced, even though most of them appear to be by Chris Reid.

Finally, Keith Taylor is recovering well from his operation, and continues to dispense advice on psyllids from his sick bed. We wish him well for continued recovery at home.

Peter CRANSTON
Regional Councillor

NEW SOUTH WALES
Metropolitan

Biological & Chemical Research Institute, Rydalmere

Congratulations to Martin Horwood on his MSc graduation in April. Martin's thesis was entitled "Host-parasitoid relations between the Australian plague locust and a nemestrinid fly".

Murray Fletcher has just returned from four weeks overseas, two in London and one each in Cardiff, Wales, and Delphi, Greece, all funded by the Australian Academy of Science/Royal Society International Exchange Program. Two weeks at the Natural History Museum is just enough to whet the appetite although it is interesting to note that, due to recent staff reductions, the remaining cicadellid worker now feels "isolated". The week in Delphi was to attend the 8th International Auchenorrhyncha Congress. With the lure of the fascinating Australian fauna, it took little effort to overcome a strong challenge from the USA and secure the 9th Congress for Australia in 1997. Watch this space for further details.

Graeme Baker attended the 6th International Meeting of the Orthopterists' Society at the University of Hawaii, Hilo, 2-6 August. With David Rentz (CSIRO, Canberra) elected President, the next international meeting will also come to Australia in 1997.

Gary Levot had some unusual flea problems in May. The first had been intercepted on a woman recently arrived from Africa. She had an infestation of *Tunga penetrans* as eggs, in lesions in her feet. Tungiasis is a particularly grotesque infection of affected body parts requiring medical intervention. *T. penetrans* normally infests dogs but will burrow into other mammals. It poses a real threat to Australia if it were to become established. The second involved larvae collected from small wounds on an Eastern Quoll. They were identified as *Uropsylla tasmanica* which has truly parasitic larvae feeding on the flesh of marsupials.

Andrew Beattie's petroleum spray oils projects are continually expanding as funding rolls in. Debbie Rae and Duncan Watson have joined the team as Entomologist and Biometrician, respectively, and will be spending some time in China as part of their work. Zhongmin Liu, from Guangdong Entomology Institute has been working at BCRI since March on his PhD studies on the use of the oils against citrus leaf miner. Ross Parkes and Karen Harding are moving to Gosford and Orange respectively to work on the use of the oils in industries based locally. Anjali Kallianpur has been employed as a bioassayist, Melanie Scanes as an assistant, Simeone Appleby as an assistant and Chris Gandhi as a data processor. It's good to see such expansion within the Entomological

sphere.

Graham Brown has resigned to take up a position as curator at the Museum of the Northern Territory in Darwin and we wish them both luck.

Visitors to the Institute have included Prof. Kok and Mr Leon Fourie of the University of the Orange Free State in South Africa to see Gary Levot, Peter Matthews from RSBS, ANU to see Murray Fletcher and Merv Bengston to talk with Barry Wallbank.

CERIT, Bioscience
University of New South Wales

Even though CERIT did not get an entry into the last issue of Myrmecia, we are still here and functioning. Business is fairly slow, along with the insect life in winter, but should pick up with the first buzz of spring.

Martin Shivas and Chris Orton were reviewed by the Wool Research Development Council (WRDC) and as a result funding was continued for the on-going project on developing protocols for assessing resistance in *Lucilia cuprina*. Martin, Chris and Lynette McLeod presented posters of their WRDC funded projects to the On-farm Research Committee at Elizabeth Macarthur Agricultural Institute (EMAI) in August and were hosted afterwards to an excellent lunch in the Walter Merriman Merino Hall.

Rowena Bower, Cerit's honours student, continues her research project on the effects of Insect Growth Regulators on *Culex quinquefasciatus*. She has already submitted the literature review section of the thesis. Julieanne Farrell, P/T student at Charles Sturt University and "invitee" at Cerit, has returned after her exams to do some experiments with *Calliphora nociva* and give Jenny Anderson a hand with the buffalo fly culture - which includes rather large amounts of washing up. Julieanne is still on the prowl for a job in entomology which is not easy.

Stephen Fellenberg was guest speaker for the Society of Insect Studies, held at the Australian Museum on the 10th August. He spoke on Australian Phasmatids, and displayed some of his increasing family of pets that have emerged from eggs. Stephen also demonstrated the art of collecting and preserving insects to second year Biology students at the University of Western Sydney (Macarthur Campus). He said that the students were very interested and keen to learn.

Lynette McLeod was interviewed on overwintering in flies by Peter Jacklyn on ABC Radio's "Green and Practical" as was Chris Orton on Cockroaches in July. Chris also survived 20 minutes of talk-back on "Green and Practical" and did an excellent job. CERIT supplied the livestock for a Beyond 2000 episode filmed in the aerosol chamber. This resulted in some funny scenes which did not make public exhibition.

Visitors to CERIT included: Phillip Black from Foster, who came to discuss fly traps; Peter Maher (Engineering Manager), Ted Thomas (Site Maintenance Supervisor) and Catherine Gwynne (Senior Technical Officer) of Boots, consulted on pest management practices; Steve McGuinness and Gavin Allison (chemists) of Samuel Taylor discussed testing programmes; Doug Pollock and Paul Martin of Pitman-Moore visited to discuss the buffalo fly project; Elke Sheurmann and a group from WRDC came to discuss CERIT projects; Tony Gailey (Producer) 220 Productions, discussed a proposed cockroach documentary; Wendy Darke, BBC South (TV) sought our advice on a proposed series on Australian insects; Peter Jacklyn from ABC Radio came to interview staff on flies; John Laing, John Darcy and filming team from Beyond 2000, and Jo Jeffery (National Quality Manager), Jim Montgomery (Manager, Victoria and South Australia) and Bruce Ward (New South Wales Manager) of Competitive Foods Australia, came to discuss future consultancy.

Department of Medical Entomology, University of Sydney at Westmead Hospital

Richard Russell visited Darwin in mid-June for the Annual Scientific Meeting of the Australasian College of Tropical Medicine, and to discuss aspects of control of saltmarsh pest mosquitoes with Peter Whelan. Later in June Richard travelled to England to attend the First International Conference on Insect Pests in the Urban Environment held 30 June - 3 July at St John's College, Cambridge University, and he presented a paper entitled "Requirements and problems for control of some arthropod pests of medical importance in urban Australia". While in England he also visited colleagues at the

London School of Hygiene and Tropical Medicine, and at the Liverpool School of Tropical Medicine.

Incoming shipments of mosquitoes for the arbovirus program have declined to just those sent in from two north coast locations, with Steve Doggett and John Clancy now spending most of their time entering data into the computer towards producing reports for the N.S.W. Health Department.

Peter Wells has continued with Ross River virus vector competence studies. He has also been assisted on odd days by two eager work experience people, Wendy Wu and Francis Ticat. The research has now shown important differences between the growth of different field strains of virus and between colony and field-caught mosquitoes. It now seems clear that the interaction between Ross River virus and mosquitoes is a very complex picture that will take quite some work to elucidate.

Raeleen Phillips has been attending the Unit to complete work on an Honours project with Ian Humphrey-Smith of Sydney University.

Visitors to the Unit included Louise MacDonald looking at analysing arbovirus data from the Riverina District of N.S.W. as a part of her Master of Public Health degree; Rick Harris, Manager of Environmental Health for Port Stephens Shire Council to discuss the arbovirus program, Ross River virus vector competence research in the Port Stephens area and the entomological pathology service offered by the unit.

Army Malaria Research Unit

Tony Sweeney has headed off to warmer climes to follow up on some collaborative work with Carl Shreck in Gainesville, Florida. Liz Brooke and Bob Cooper both attended the AES Conference in Cairns. Liz is back now and in the throws of writing up her MSc on the microsporidia *Edhazardia aedis* in *Aedes aegypti*. Bob, with the help of Nigel Beebe from QIMR, is keeping busy sorting out the identity of several thousand anophelines collected recently in the Sepik region of Papua New Guinea.

John CLANCY
Regional Councillor

Australian Museum

Mike Gray and Gerry Cassis are involved in an insect survey of the north-east forest region of NSW in association with NPWS who have provided funding. The project involves a large pitfall trapping program from the Border Ranges to the Hunter River. The major target groups are spiders, several beetle families and ants. It is hoped that the results will provide an invertebrate perspective on forest conservation issues in the NE region.

Max Moulds will spend 3 weeks in PNG during September and October collecting cicadas (plus numerous requests from other entomologists). Most time will be spent in the Star Mountains region where the insect fauna is poorly known.

Brad Sinclair, currently at Carlton University, Ottawa, has been awarded a 2 year Canadian government NSERRC post-doctoral fellowship to continue his studies on empidid flies. He will be working in the Entomology Section, Australian Museum, where he will work with Dan Bickel on empidid systematics.

Macquarie University

The aphid group has been expanding rapidly since the arrival of ARC Research Associate Paul Sunnucks, previously at the Institute of Zoology in London. Apart form his molecular and field work on *Sitobion* species - chromosomal races, he is spending some of his spare time on heroic bushwalking feats with Phillip England, a former honours student in the group.

Two new honours students, Ian Blair and Darren Chisholm, have started aphid projects - Ian is looking for molecular markers for David Wool's *Aphis gossypii* clones, and Darren will be looking at performance of *Sitobion* cones on different host plants.

Israeli sabbatical visitor David Wool's time in Australia has ended, with a heap of draft manuscripts in various stages of completion on *Aphis gossypii*.

Dinah Hales is now back in full-scale teaching mode after a most enjoyable and stimulating "Outside Studies Program" during 1st semester. She spent (only too short) periods in labs at UTS, CSIRO Entomology (Canberra) and CSIRO Biomolecular Engineering (North Ryde) as well as (even shorter) visits to CSIRO

Entomology (Narrabri), LaTrobe University, University of Melbourne and University of Adelaide. She is busy planning another series of escapes.

Life in the Beattie lab has recently seen many changes. Steven Handel (visiting professor from Rutgers University) has finished another summer of sexual deceit (of thynnine wasps by orchids that is) and with his family returned home. Rod Peakall, after 5 very productive years in the lab, has moved to Canberra to a new position as lecturer in ecological genetics at ANU. He will be missed and we all wish him the best. The preceding summer saw a great deal of activity with Ian Oliver teaming up with a Forestry Commission EIS in an attempt to get invertebrates into the big picture. Ian will be using this information to test whether vertebrates and vascular plants reflect invertebrate biodiversity, and also to examine the impact of silvicultural practices on invertebrate biodiversity.

Aletha Cruse commenced a Ph.D. earlier this year, investigating antibiotic properties of mound building termites and completed her first set of experiments comparing levels of microbial activity within termite mounds with the activity in surrounding soil.

Kay Waston and Jim Mackintosh are frantically analysing data and writing their theses with deadlines rapidly approaching. Kay has tested the nutritional quality of elaiosomes for *Rhytidoponera metallica* and has two years of measurements recorded daily. These are proving a computational handful. Jim will shortly submit his masters thesis which has investigated the antimicrobial properties of *Myrmecia gulosa*.

Two new Ph.D. students started this year. Pam Gratton who is planning to study the temporal and spatial variation in invertebrate biodiversity of a single tree species, and Emma Pharo who will be studying the impact of disturbance on non-vascular plant biodiversity.

In the Westoby lab, while Lou Rodgerson slaves away at home, Ros Blanche and Lesley Hughes have been tripping off around the world attending conferences. They recently attended the Ecological Society of America's Annual Meeting in Madison, USA. Ros's poster, "A comparison of gall-forming insect species assemblages on infertile and fertile soil vegetation", was well received. Ros is now in the former USSR to present a paper at an International Conference on Galling. Lesley in collaboration with Clare Mc Narmara has begun a project on potential ant repellents for seeds by examining natural products which repel ants. Lou is trying to tie up the loose ends of her thesis so she can get stuck into the writing.

Note from your new councillor

I am the new regional councillor for NSW and as such I am responsible for providing Myrmecia with information about the society's members. We tend to hear a lot about entomologists who are affiliated with institutions but have little idea what our other members are up to. I would love to hear from you so please feel free to contact me. I will also be trying to chase you up so beware, I am on the prowl!

Lou RODGERSON
Regional Councillor

NEW SOUTH WALES
Country Areas

CSIRO Cotton and Heliothis Research Units, Narrabri

Garry Fitt organised a Workshop at Narrabri on the "Management of Bt toxins in transgenic plants and conventional sprays". The workshop was attended by about 60 people: researchers and representatives from chemical companies, consultants and cotton grower bodies. Many issues related to Bt research and the management of Bt to avoid resistance in *H.armigera* were discussed. A process to develop and implement a cotton industry Bt toxin strategy was initiated at the Workshop.

The 1992/93 cotton season is well underway. Gina Dillon is continuing her research into factors affecting the mortality of *Helicoverpa* eggs and early instar larvae on cotton. Martin Dillon and Garry Fitt are commencing a large scale field validation of their regional *Helicoverpa* population model, called HEAPS. They will also be collaborating with QDPI entomologists Ian Titmarsh at Biloela and Dave Murray at Toowoomba to validate HEAPS in those cotton growing regions as well.

NSW Agriculture, Myall Vale Research Station

Robert Mensah commenced work as a cotton entomologist in July. He comes from Ghana (via the University of Tasmania and CRC for Temperate Hardwood Forestry) and his research will concentrate on integrated pest management options in cotton (particularly for early season insect control.

Neil Forrester has been travelling lately. He attended the Beijing Congress and then travelled through the intensive cotton production areas centred on the Yellow River and Yangtse River valleys in central eastern China. En route, Neil visited research institutes in Beijing, Liaoceng, Nanjing and Shanghai. During September he travelled through the cotton growing areas of the Mississippi delta. Early November saw him travel to Washington to the International Organisation for Resistant Pest Management (IOPRM) First International Congress for Program Implementation. In his capacity as Chair of the Cotton Working Group, Neil delivered a paper to the various donor bodies present, outlining the IOPRM plans for an Insecticide Resistance Management program for India.

Agricultural Research & Veterinary Centre, Orange

Among the more exciting events to occur as Col Bower and Graham Thwaite emerge from another Orange winter is the changeover to a new phone system at AR&VC. The telephone number is now (063)913800 and fax (063)913899. Graham attended a meeting in Canberra in late August with several CSIRO colleagues, including David Evans and Richard Vickers, and Victorian counterpart Dave Williams. The group is now working on a "super Codling Moth program" with Stephen Sexton of Biocontrol, Queensland.

Meanwhile, Col Bower is in the final stages of an interesting study of Apple Dimpling Bug in conjunction with Dave Williams, Queensland's Frank Page and Bill Woods from Western Australia.

The following par was published on page 2 of the Orange *Central Western Daily* on Thursday, October 8. It is thought the unnamed entomologist is a relatively new member of the Society!

"SORRY guys! - but we couldn't resist.
Well known Orange Hairdresser and entomologist friend chatted for a while on the sidewalk after a Civic Theatre Advisory Committee meeting on Tuesday evening, before deciding to go home.
'Where's your car?' one asked the other.
'Just around the corner.'
'I'll give you a lift then', he said."

North Coast Agricultural Institute, Wollongbar

Neil Treverrow and John Macdonald are settling in to their new accommodation in what used to be the Tick Research Station. For Neil it must invoke nostalgia, since this is where he started his career with what is now NSW Agriculture. Their move has also led to a change in their phone and fax number, which are now (066)240248 and (066)285680 respectively.

Agricultural Research Centre, Tamworth

Robin Gunning has returned from a visit to Rothamstead Research Station during May-June on an Academy of Science Fellowship to work on resistance biology in *Helicoverpa*.

Since returning, she and John Hosking have visited Canberra, she to talk to Joanne Daly about *Helicoverpa*, he to talk to Jim Cullen.

Yanco Agricultural Institute

Like Orange, Yanco is also emerging from winter, which has been unusually wet. Emerging with the rest of the Entomology Section are two new (sort-of) members: Margaret Rayner, working on grapevine mites, and Karen O'Malley, working on control of Spined Citrus Bug.

Deserting Yanco for slightly warmer climes, Richard Faulder attended the International Congress of Entomology in Brisbane, where he gave a talk on mouse spiders. On his return trip he visited Neil Treverrow and John Macdonald in Wollongbar, and Mike Gray at the Australian Museum.

NORTHERN TERRITORY

Northern Territory Museum of Arts and Sciences

Graham Brown has just been appointed

Curator of Entomology, after serving for 20 years with NSW Agriculture. On his first day the Museum management announced extensive staff redundancies. They are obviously expecting big things from Graham.

CSIRO Division of Entomology

The last few months have seen the Mimosa Formation Bogging Team getting out and about. Grant Farrell headed south in June for a frigid trip to Melbourne (purely self-inflicted) before turning north again for the Society's conference in Cairns, where he joined Michael Storrs as CSIRO's NT representatives. While the mild Cairns winter helped to thaw him out, it was only a brief respite as he then returned to the icy grip of the southern winter by flying to Sydney after the conference. There he attended a one-day symposium on the effectiveness of weed biological control, held by the Weed Society of NSW at the University of Sydney. Mark Lonsdale represented the hot and prickly end of the mimosa program at the CTPM-sponsored workshop on biocontrol of tropical weeds held in May in Brisbane. Alan Andersen and family left Darwin in early July for an extended study tour of the US. He is currently approaching Harvard and will be back at TERC in late October.

The pilot project on the dry season survival of *Calligrapha pantherina*, the *Sida acuta* biocontrol agent, has produced results, but not the ones hoped for. Although this beetle is becoming more effective with each season, its ability to survive the dry is patchy and the mechanism is unknown. Huge numbers of dead beetles turned up in vacuum samples of leaf litter following the demise of the local sida population. We know live ones are out there somewhere, it's just a matter of finding them.

News from the Finniss River over the last few weeks has been more encouraging for mimosa control. *Carmenta mimosa*, a stem-boring sesiid which has been difficult to establish in the field, has built up good numbers at release sites along the river. Mark Lonsdale and Grant Farrell recently visited one of these sites with Colin Wilson of DPI&F and attempted to quantify the level of establishment. Although the sample size was small, they found larvae present in all trees, and the most heavily infested trees had larvae in all suitable branches. *Chlamisus mimosae*, a leaf-grazing chrysomelid released in 1985, is now noticeably damaging mimosa at this same site. The good news keeps coming Despite problems with the colony last wet season, it appears that the bud-feeding *Apion* (now known to about 3 taxonomists as "*Coelocephalapion*") *aculeatum* that were released at Beatrice Lagoon on the Adelaide River are hanging in there. Adult beetles are still turning up in samples even though flowering has almost ceased. Just watch out next wet season.

Visitors have been sporadic over the past few months. Ricardo Segura, the man who, with Wendy Forno, found so many of the potential control agents of mimosa and sida in Mexico, and Gio Fichera, one of Wendy's Brisbane team, spent a week in Darwin in mid May. Bryce Skarratt from CTPM in Brisbane visited in late July to promote CSIRO's CLIMEX software. El Bruzzese from the Keith Turnbull Research Institute in Victoria stopped in briefly to see Mark Lonsdale while on holiday in the NT in late July. Mic Julien from CSIRO Brisbane passed through in early August *en route* to visiting Michael Storrs at Jabiru.

As I write, His Honour The Hon. K.J.A. Asche, Q.C., Administrator of the NT, his wife Dr Val Asche, and Aide to the Administrator Captain Paul Rosenzweig are visiting TERC. Traditionally such events are marked by a gut-busting morning tea. This visit will be no exception, so I had better finish here and join the feeding frenzy. And Alan Andersen is overseas!

NT Health, Medical Entomology Branch

The first big tide of the dry season resulted in only a small hatch of salt marsh mosquitoes, located in the middle of the mangroves at Holmes Jungle and treated by hand. The Branch is now preparing for the coming helicopter salt marsh mosquito control program.

Concrete engineering work on preventing breeding in the end points of storm water drains has been proceeding and will be finished before the next large tide. The pre-wet maintenance of drains is now proceeding.

Ross Nowland and Brian Montgomery are continuing to wade through the mosquitoes and biting midges collected in the new Darwin South area. Gwenda Hayes' container survey of Pine

Creek indicated the continued absence of *Aedes aegypti*. Gwenda, Ross and Kerith Donnan are progressing on cataloguing the insect reference collection in spare moments.

June saw the successful Australian College of Tropical Medicine Scientific Meeting in Darwin. The theme was "Tropical Medicine in the Top End". Peter Whelan presented a paper on arbovirus vectors and their control in the NT. Visitors to the Branch during the conference included Richard Russell from Westmead, John MacKenzie, Annette Broom and Mike Lindsay from the University of WA, and Joan Bryan from Townsville.

There has been a local outbreak of Murray Valley Encephalitis virus in the Katherine district which has kept most of the Branch occupied with virus collecting surveys and control operations. Much of the increased breeding of *Culex annulirostris* in the vicinity was attributed to faulty waste water disposal.

The Branch has just completed tabulating the statistics for our annual report and a copy of all our results is available by writing to Medical Entomology Branch, Department of Health and Community Services, PO Box 40596, Casuarina NT 0811.

Office of the Supervising Scientist
Alligator Rivers Region Research Institute

It's been a cold winter in Jabiru, with the chill winds of funding cuts upon us. But when the going gets tough, the tough go fishing; and what fun it was! At present Peter Dostine is preparing a paper for a conference on "The Use of Biota to Assess Water Quality" to be held at the University of Canberra in late September. The conference will be followed by a one day workshop on biological monitoring in the ARR. We are expecting a visit from John Hawking (Murray-Darling Freshwater Research Centre) later in the year to complete the set of larval-adult associations for Top End odonates.

Michael Storrs of the CSIRO salvinia project has returned to Kakadu after attending the Cairns conference. He says it is good to be back in the warmth of the Territory. Mic Julien visited Kakadu in early August to discuss trials on the use of chemicals in an integrated approach against salvinia.

DPIF Entomology Branch

Our work has again been dominated by the *Thrips palmi* trade barriers between states, notably on the NT's submission to the Interstate Plant Health Regulation Working Group (IPRWG), which met in early May to deliberate upon the removal of quarantine barriers imposed on NT produce. Although the IPRWG decided that, in the interests of interstate growers, monitoring for area and property freedom should continue, the evidence presented emphasised that *T. palmi* prefers leaves to fruit, and is found in extremely low numbers on most NT produce. The IPRWG therefore decided that it will accept any post-harvest washing technique shown to reduce thrips levels on fruit from infested crops to insignificant levels (0/600 fruit). Collection of this disinfestation data began in June.

In the meantime the presence of *T. palmi* recorded in Queensland has eased the situation for NT growers, with NSW and QLD deciding to lift their Quarantine restrictions.

Stuart Smith has been working on an 8 week consultancy in PNG. Kaye Hergstrom presented a paper on the biological control of *T. palmi* at the Society conference in July. Michael Neal's photography has been an outstanding feature of our displays at the Darwin show, the 'Orchid Spectacular' and the 'Garden Show'. Suzanne Gall has taken Haidee Brown's position whilst Haidee is away on holidays. Deanna Chin has continued her much appreciated extension role.

DPI&F Weeds Branch

Colin Wilson spent most of April, May and June doing an intensive Indonesian course, culminating in a week in Kupang. The locals seemed to have difficulty at first in understanding their own language, but they got better as the week progressed. This was all in preparation for a project on the biocontrol of Siam weed in Indonesia and the Philippines, sponsored by the Queensland Department of Lands and funded by ACIAR.

Debbie van Rangelrooy was transfered into the biocontrol group to cover a vacancy, and then transfered out again to a more senior position in Tennant Creek. Suzanne Gall, who was working part-time, gained a temporary promotion to the Entomology Branch. This has

left us short-staffed for a while. Merrilyn Paskins took part in a staff exchange with CSIRO in Brisbane to study the next batch of mimosa biological control agents progressing through quarantine. She is now busy distributing a flu virus amongst her colleagues.

During May we were visited by Ricardo Segura of the CSIRO Mexican field station and Gio Fichera from CSIRO Brisbane, and during June Bryce Skarratt popped in to demonstrate the CLIMEX software.

By the time the next edition of *Myrmecia* appears, we may no longer be the Weeds Branch, but something else entirely, possibly the Land Management Branch. The Department is undergoing a reshaping that is contrary to all recent health advice - our shape is to be changed from tall and slim, like Chips Rafferty or John Wayne, to short and fat like Danny Devito. This has obvious implications for our public image

Colin WILSON
Regional Councillor

NORTH QUEENSLAND

QDPI - Mareeba and Innisfail

Martin and Barbara Baehr of the Zoological State Collection, Munich, Germany, spent the end of May in the far north collecting Pseudomorphine (Carabidae) beetles and spiders from various localities in Cape York. While the collecting proved less productive than on Martin's last visit a good swag of specimens was still obtained.

Paul Zborowski and Ian Naumann (CSIRO Canberra) spent 10 days in Cape York in late June selecting new trapping sites for the CYPLUS survey work, 12 months data having been obtained from the previous sites. Paul is back to battling tourists and the stream of southern entomologists queuing to join him on one of his trips.

A problem definition workshop on fruitspotting bugs (*Amblypelta* spp.) was held in Mareeba on the 8th and 9th of July. Fruitspotting bugs are severe pests of most tree fruits and nuts in much of tropical and subtropical Australia. The workshop focussed on current practices used by growers, likely changes in cropping and pest management practices, key research and development needs to improve fruitspotting bug management, and action plans for research, funding, development, training and implementation. In attendance were growers, consultants, researchers from QDPI, NSW Agriculture and the Department of Agriculture in Papua New Guinea, extension personnel, a chemist (Chris Moore) and post-grad students. The workshop was organised and facilitated through the Centre for Tropical Pest Management and a report is being prepared detailing the deliberations.

The IPM project in bananas, jointly funded by HRDC and the Banana Sectional Group, has run its course and a manual will soon be available to assist growers to maintain or develop this concept in their crops. Richard Piper has left a senescing DPI, and after six weeks in the UK, will set up business as a private pest management consultant in bananas based in Tully. We wish Richard well in his new venture and we hope to bring you further news of his activities.

Organising Committee
AES Conference, Cairns

Most agreed it was a very successful Cairns meeting. Over 200 people attended, which attests to the attractiveness of a northern venue mid-winter. A full report appears elsewhere in this newsletter. There's no truth in the rumour that the Organising Committee was last seen adorning the white sands of a remote coconut fringed beach with a fridge full of XXXX. No, in these days of corporate responsibility we are going to ascertain a profit first!

Many entomologists have gone on post-conference collecting trips in and about Cape York. A University of Queensland group headed for Iron Range, including amongst others Michael Ross, Rieks van Klinken and Manon Griffiths. Geoff Monteith (Queensland Museum) spent most of his free time before and during the conference collecting giant burrowing cockroaches on the Tablelands, with considerable success. Perhaps a job as a grave-digger awaits Geoff in another life.

Tropical Weeds Research Centre
Charters Towers

Geoff Monteith, Heather Janetzki and Rae Sheridan from the Queensland Museum, conducted three "Using Insects in your

Classroom" workshops at Charters Towers in late April. After their brief stop at the Tropical Weeds Research Centre, the threesome with their mass of live insects and mini-van set off to the western towns of Hughenden, Richmond, Cloncurry and Mt Isa for further workshops and school visits. Wherever possible, Geoff slipped out the light trap at night to see what was buzzing around.

Marie Vitelli (Ablin), Barbara Madigan and Cathy Lockett attended the 24th AES Conference in Cairns. As part of Marie's Organising Committee duties, she had the unenviable task of ensuring that the 110 people on the Atherton Tableland excursion made it back to the bus after each stop. Entomologists must make commendable tourists, as Marie was still smiling on return to Cairns.

Queensland Health - Cairns

Since the beginning of May, David Sinclair has been busy dealing with the Dengue fever situation in Cairns and the Peninsula and Torres Strait Regional Health Authority region. A total of 61 clinical cases were investigated (to date): 17 serologically confirmed (type 2) in a wide geographic area from Cooktown to Cardwell and west to Mareeba, 34 serologically negative, 6 results pending and 4 not tested serologically. Since the arrival of cooler weather no cases have been reported since July 2. Rest easy all you conference goers!

Dr Duane Gubler, an international authority on dengue fever, visited north Queensland over the period July 3 - 13 at the invitation of the Northern Regional Health Authority in Townsville. He was asked to review the current dengue management methods used in north Queensland and suggest improvements. Visits were made to Cairns, Townsville and Charters Towers, the areas where the great majority of dengue fever cases have occurred in 1992 - 93. David Sinclair accompanied Dr Gubler for the duration of his visit, and feels he benefited greatly from it.

James Cook University, Zoology Department

JCU entomologists have been busy of late, with 9 representatives presenting nine papers at the Cairns conference. Entomology is being introduced as a third year major next year, with main streams in Insect Biodiversity, Pest Management and Biological Control, and Public Health Entomology; complementary units are available in invertebrate ecology, behaviour, evolution and physiology. The same courses will be available to post-graduate diploma students on an expanded basis.

Keeping track of comings and goings has not been easy. Richard Rowe returned from 4 months study leave in Mexico, Costa Rica, Canada and the UK, with over 200 hours of videotape of (hopefully) fighting dragonfly larvae to analyse. Debbie Rae was awarded her PhD on sugarcane mealybugs, while Rennie Roesli started hers on psocids in tropical grain stores. Ian Cook will join the department part time from August, to contribute to the nascent entomology major.

Visitors to the Department included Geoff Allen (University of Western Australia) and Gary Taylor (University of Adelaide). Geoff presented a seminar on parasitic wasp sex which he researched under a Fulbright fellowship, and Gary worked with Phil Weinstein for 2 weeks on feeding adaptations in cave fulgorids. After winning the Phil Carne Student Prize, Gary asserts that he will be increasing the fees for his services!

Harry FAY
Regional Councillor

NOTICE

Those who attended the 24th AES Conference in Cairns and weren't able to collect a conference photo should contact Ross Storey on (070) 92 1555 if they would like to obtain one.

S.E. QUEENSLAND

Queensland Museum

A grant from the Ian Potter Foundation will assist Kevin Lambkin when he heads off to Carleton University in Ottawa, Canada, in September. He spends two months there wrestling with the intricacies of the phylogeny

and interpretation of the wing venation of Neuroptera in collaboration with palaeontologist-evolutionist Jarmila Kukalova-Peck.

The Biodiversity and Conservation Conference at the Queensland Museum in mid July was a great success with almost 90 delegates attending and 57 papers presented. The meeting concentrated on invertebrates so a high proportion of the papers dealt with insects, spiders and other terrestrial arthropods. Many delegates of taxonomic bent managed to put in a bit of time working with the Museum collections while in Brisbane. These included Peter McQuillan, Penny Greenslade, Mike Gray, Glenn Hunt and Max Moulds. Jenny Shield of the La Trobe University College of Northern Victoria in Bendigo is staying on for six months to familiarise herself more with spiders. The proceedings of the Conference will be printed as a special volume of the Memoirs of the Queensland Museum.

In May an enterprise dubbed "The Great Queensland Museum Travelling Insect Road Show" set off on a 5,500km, 3 week trip which took insect activities to schools in some of the remotest corners of Queensland. Geoff Monteith, Education Officer Heather Janetzki, and Education Loans Officer Rae Sheridan, took part in this 4-pronged venture.

Firstly our Travelling Exhibition "The Butterfly Man of Kuranda" needed packing up in Cloncurry and setting up in Mount Isa where the Mayor opened it and Geoff gave his lecture on Frederick Parkhurst Dodd. Secondly we gave the popular "Insects in the Classroom" workshop for school teachers in Charters Towers, Cloncurry, Mount Isa and Quilpie. This workshop, developed by Heather and Geoff has now been taken by more than 1200 teachers in 3 States.

Thirdly it was a chance to launch our brand new Country Loan Kits on Insects. These were designed and built at the Museum and are part of the vast store of educational resource items which Rae's Loan Service provides free to Queensland teachers. Each Insect Kit includes books, posters, videos, audio tapes, plus 12 thematic drawers of insect specimens, all of which fits into a portable (and almost indestructible) carry crate. The five identical Kits will be located in Education Centres across Queensland from where they can be borrowed by teachers. Fourthly we did pit-stop classroom activities for children at the smaller schools in Hughenden, Richmond, Julia Creek, Boulia, Birdsville and Bedourie. Here our "zoo" of 25 species of spectacular living insects (giant cockroaches, phasmids, etc) was a great hit. The tiny, remote 1-teacher schools were a special thrill. At Bedourie the whole room was decorated with insect drawings and the entire enrolment of 12 children were wide-eyed with anticipation of our arrival. It was great to see the kids' initial reaction to *Macropanesthia* of "Ooh, yuck! look at the horrible cockroach" change magically to "Miss, miss, I haven't had a turn with the cockroach" after Heather's session on "Insects as Pets".

Robert Raven made a flying visit (two weeks) by rail and car from Cooktown south on the final leg of clearing the pitfall traps. More exciting catches continue to be made in open forest and vine thickets than rainforest.

Rudi Kohout has retired from his preparatory position and is now devoting more of his time to his research on ants.

CSIRO Long Pocket

Don Sands visited Gerardo Liljesthrom of La Plata to discuss natural enemies of green vegetable bug in Argentina. Don is especially interested in a little known tachinid fly which has potential as a biological control agent of GVB in other parts of the world including Australia.

After the Cairns conference, Don Sands, accompanied by Brian Fletcher, travelled to Cape York to attempt to locate the transition zone in which larvae of the fruit piercing moth switch host plants from Menispermiaceae to *Erythrina*. They also surveyed for parasites of these moths.

Gus Macqueen has taken long service leave to "relax" on his pecan nut orchard at Childers.

Ricardo Segura, who runs our Mexican Biological control of Weeds Field Station, has returned home after a busy 3 weeks in Australia examining the Long Pocket mimosa insect collection, travelling to the Northern Territory, attending some sessions of the CTPM Biocontrol of Tropical Weeds Course, and discussing future work with the Australian team.

Wendy Forno and Tim Heard are soon replying to Ricardo's visit. Wendy is surveying for rust fungi attacking mimosa in Cuba and

meeting with Tim in Mexico to undertake field studies on potential mimosa agents henceforth defying lab culturing.

Jenny Burcher has joined the mimosa program, on an 8 month part-time basis, after graduating from the Uni of Qld with majors in botany and entomology.

Gio Fichera, Ryan Zonneveld (CSIRO Long Pocket) and Merrilyn Paskins (DPIF Darwin) were recent benefactors of Wendy Forno's trans-migration policy, aimed at cross-fertilisation of skills and experience between the Darwin and Brisbane ends of the mimosa program. Gio and Ryan visited Darwin on separate occasions. Merrilyn worked with the Brisbane team for a week. As she handles many of the insects released against mimosa and sida, she was particularly interested in increasing her knowledge of the insects that are expected to be released in the near future.

Mic Julien returned from long service raring to get back into it. Funding from the Australian Nature Conservation Agency (formerly ANPWS) has been continued for the third year of his Kakadu salvinia project. This will enable Michael Storrs to continue his field work.

Cooperative Research Centre for Tropical Pest Management

The Centre held an international training course on Biological Control of Tropical Weeds in May. Many Centre members contributed by giving lectures and practicals. Participants came from Vietnam, Thailand, Indonesia, the Philippines, Fiji, Solomon Is., Uganda and Australia. The course is set to become an annual event; it will be held again in March 1994.

The CTPM and the Department of Entomology UQ are very pleased to announce that David Walter has been appointed to the position of Lecturer in Tropical Pest Management. This position is jointly funded between the Centre and the Department and should further increase the committment of both partners to education in pest management. David joins us from the Department of Evolutionary Biology, Monash University and will take up his new position in August.

Congratulations to the coordinators of the recent Australian Entomological Society conference in Cairns. CTPM-HQ became a very quiet place for a few days while the entomologists went conferencing! All attendees seemed to enjoy the science, the company and the seafood!

The Centre conducted a problem definition workshop on Fruit Spotting Bug at the Mareeba DPI on July 8-9. The workshop was organised by Harry Fay (QDPI) and Geoff Waite (QDPI), and facilitated by Elaine Brough, Geoff Norton, John Rogers and Paula Myatt from CTPM. The FSB workshop looked at the history of FSB problems and put together some strategies for future management and scientific priorities. The grower input at this workshop was invaluable and a report will be available in the near future (contact Harry Fay in Mareeba for more details).

CTPM-HQ will be a busy place in early November, with the Centre hosting three big events over three days. Nov. 5 will see the first CTPM Science day held at CTPM-HQ. This is designed as a day for the exchange of science among the many participants of the Centre. The Science Day will provide an opportunity for all people associated with the Centre to assemble in one place and learn about the research that makes up CTPM. November 8 will see the second event, an invitation to chemical industry representatives to come along to the CTPM-HQ, learn about Centre activities and discuss potential industry involvement in CTPM research. November 9 will be the Open Day - a free-for-all when the whole world (not quite) is invited to visit CTPM-HQ (if they have not already been there) and take a look around. These events will include interesting displays including video presentations, interactive computer games, demonstrations of CTPM software, and brief presentations by enthusiastic staff members (!). For more information contact Paula Myatt (ph 07-3651878).

Apart from building up for these events (and watch this space for more information in the future), CTPM is currently in the process of advertising eight new positions for applied entomologists, ecologists, programmers etc. All positions are advertised in the Courier-Mail and the Australian, and mainly on Saturdays. Keep your eye out for these!

Quick advertisement; if you are not on the CTPM mailing list, and you are interested in

receiving copies of any CTPM publications (the monthly Newsletters, Tropical Pest News, Strategic Plan or even the Annual report), please give Paula Myatt a call.

QDPI Division of Plant Protection, Indooroopilly

Dick Drew and Annice Lloyd have just returned from Fiji where they participated in the end of project review of the ACIAR Pacific Fruitfly Project. Dick says that early indications from ACIAR are that the review was favourable.

The Fruitfly Group has been very busy with the oriental fruitfly outbreak in the Torres Strait. Dick Drew says that the fly has now been found in 5 islands, after an extensive survey programme during the last month. Bruce Sabine and Eddy Hamacek have been carrying out the field work. An eradication programme has been proposed for Darnley and Stephens Islands together with continued monitoring on Boigu, Saibai and Dauan Islands. The proposal must be approved by the Standing Committee on Agriculture and Resource Management which is providing funding before the plan can be put into action.

Other species causing quarantine interest at present are the spiralling whitefly and Western flower thrips. Judy Grimshaw has confirmed the presence of spiralling whitefly on Thursday and Horne Islands. This is much further south than the previous confirmations on Boigu and Saibai Islands. Western flower thrips appears established in Western Australia and there have been interceptions at the Brisbane Markets, but as yet there is no evidence of field infestations.

Shamsudin Osman of the Malaysian Agricultural Research and Development Institute arrived in Brisbane following the award of an ACIAR sponsored postgraduate scholarship at the University of Queensland. He has worked previously with Neil Heather and other members of the Fresh Fruit Disinfestation Group on an ACIAR project on heat treatment of fruit.

Merv Bengston, Pat Collins and Alison Strange attended the 1993 Australian Working Party on Grain Protection in Perth. Pat announced the existence of a high level resistance in the lesser grain borer (*Rhyzopertha dominica*) to phosphine which is the major fumigant used to disinfest grain. While in Perth they took the opportunity to discuss several quarantine issues with Nick Monzu and Rob Emery of the Western Australia Department of Agriculture.

Elaine Brough, Merv Bengston, John Donaldson, Dave Hancock, and John Rogers (Indooroopilly), Bernie Franzmann and Brad Scholz (Toowoomba), Frank Page (Applethorpe), Geoff Waite (Nambour) and Ian Titmarsh (Biloela) were delegates at the 24th A.E.S. Scientific Conference and A.G.M. in Cairns. Elaine, Frank and John Donaldson presented papers. Before the conference John Donaldson participated in the Council of Heads of Australian Entomological Collections (CHAEC).

Uri Gerson of the Hebrew University of Jerusalem leaves Australia on 24 July after finishing a year as visiting scientist working on native predatory mites. He will return home via the USA and the UK where he will visit colleagues.

Hugh Brier (Kingaroy) enrolled recently for a Master's degree at the University on Queensland under the supervision of Myron Zalucki. His topic is the tolerance of soybean plants to bug attack and currently he is analysing the results of his first season of field experiments.

QDPI Forest Service

Ross Wylie is in the Philippines for 3 months assessing insect pest problems for the Tree Improvement Project. He is based in Los Baños south of Manila on the main island of Luzon, but will travel to other islands including Mindoro and Mindinao. Ross will return early in July.

Griffith University

On 4 July 1993, Roger Kitching commenced the fifth Earthwatch expedition. This expedition, led by Roger, is examining the fauna of Cape Tribulation area concentrating on the canopy insects. Its is the first expedition in the series to be conducted during the dry season. The expedition has a strong international contingent including volunteers from the USA, UK and Vietnam.

Queensland Institute of Medical Research

After 32 years at QIMR, Ian Fanning left the

Institute on 16 July. He and Brian Kay worked together since 1972 on a range of arbovirus and vector control projects. Ian joined the Institute as a cadet in 1961 and has co-authored 26 publications. Colleagues and friends joined Ian and Gwen for a farewell celebration at the Petrie Terrace Mansions. Presently Ian is chasing trout in the Pakistani Mountains, and from 27 August will commence TESOL teacher training in Cairo. From there he plans to travel through Egypt to Moscow northward, and then take up a two week consultancy on environmental management in Chittagong, Pakistan. Ian will return to Brisbane during November. We wish Ian and family all the best for the future.

University of Queensland

Ex UQ student Tony Clarke now at the CRC for Forest Science in Hobart visited the department from 9-15 July to give seminars and talk about possible collaborative projects.

Elleni Patrick has left her position as research assistant to Gimme Walter and Honours graduand Tania MacDonald will continue this work on the green vegetable bug.

While in Brisbane to attend the Biodiversity Conference at the Queensland Museum, Dan Bickel and Max Moulds of the Australian Museum, Sydney and Geoff Williams (Taree) found time to visit the UQ Insect Collection. Dan went away laden with Dolichopodidae and Empididae, Max with some cicadas of the genus *Abricta* for his MSc studies and Geoff with dung beetles and some very exciting little buprestids!

Eric Reye went to Hervey Bay on the 15-16 June for consultations on a biting midge problem at River Heads with the City council, local residents and the DPI. Several methods of control were discussed and these await both selection by the Council and Government approval. Doug Kettle and Eric Reye attended a meeting at the Gold Coast, of the Australian Biting Midge Research Institute on 12 July.

Alan Dyce (Sydney) visited Doug Kettle, Eric Reye and Gordon Gordh in late July for discussions on *Culicoides* taxonomy.

The Department welcomes Mohammad Shamsudin Osman who is a new postgraduate student from Malaysia, working with Neil Heather and Martin Rice on the basic biology of fruit flies and application of heat for disinfestation of commercial fruits.

The department farewells PhD student Helen Wallace who is leaving for Bundaberg where she will be working for the University of Central Queensland based at Bundaberg TAFE. Helen will be helping to make the Associate Diploma in Horticulture offered by TAFE equivalent to first year biology at UCQ. However, most of her time will be spent working on pollination of citrus with QDPI at Bundaberg - good luck Helen!

David Walter, the new lecturer in Tropical Pest Management, has now set up shop in the Hartley-Teakle building. Among Dave's many interests are: mites in tritrophic level interactions (predator, herbivore and plant); mite phoresy on insects and vertebrates; systematics, reproductive ecology and feeding ecology of mites; and mite contributions to rainforest biodiversity. The department extends a warm welcome to Dave.

Gordon Gordh, Axel Boselmann and Martin Rice have been invited to participate in a Neem workshop at Cloncurry on 21st August and Martin will be working with the Mt Isa Council on Neem after the workshop.

Qld Dept of Lands
Alan Fletcher Research Station

Brian Willson is spending 2 weeks in Indonesia visiting collaborating institutions in the ACIAR *Chromolaena* project. He will be visiting Biotrop in Bogor, Yogyakarta University in central Java and Marihat Oil Palm Research Centre in northern Sumatra. Progress with the project has been delayed by failure to obtain an import permit for the first insect, the galling fly *Procecidochares connexa*, but meanwhile collaborators are rearing the arctiid *Pareuchetes pseudoinsulata* which has already been cleared for release. Brian will be checking on progress with this insect and with the import permit.

Rachel McFadyen gave a talk on Funding and the long-term nature of research at a recent NSW Weed Society Symposium on biological control of weeds, also attended by Jennifer Marohasy and Tim Heard (CSIRO).

Graham White and David Sparks attended the Aust Ent Soc AGM in Cairns, and returned in a very muddy condition from central Queensland.

The recent rain has given us hope that there will be some weeds on which to release our insects next season.

The MRC has given us $5000 to fund a workshop on Parthenium weed and where to go next so the CTPM will be organising the workshop in Rockhampton in October some time.

Sonya Broughton is settling in to work on her PhD on the lantana hispids, and has obtained glasshouse space at QDPI. This is a true collaborative project - paid for by a CTPM scholarship, supervised by UQ and AFRS, working at AFRS and QDPI.

Tim HEARD
Regional Councillor

QDPI Division of Plant Protection

The Division's staff was substantially reduced in July as many headed north to Cairns for the Society's 24th AGM and Conference. Merv Bengston, Elaine Brough and John Donaldson attended from Indooroopilly. Elaine discussed the adoption of IPM of mites in apples. John presented the history and current development of 'Insecoll', the Division's insect collection database. From Toowoomba, Brad Scholz and Gordon Simpson presented posters dealing with the effects of residual pesticides on the survival of *Helicoverpa* egg parasitoids, and on the effects of cultivation, stubble and soil invertebrates, respectively. Bernie Franzmann also attended. Frank Page (Applethorpe) presented data showing the efficacy and side effects of a granulosis virus for the control of codling moths in apples. Geoff Waite (Nambour) also visited Cairns for the AGM.

Immediately after the conference, Bernie, Merv and Elaine travelled to Mareeba for a two-day fruit-spotting bug workshop.

While on holiday from Victoria, Garry McDonald (Department of Agriculture) visited Gordon Simpson and Richard Lloyd in Toowoomba in early August. They discussed their current conservation tillage - soil fauna projects, and suggested possibilities for future collaborative research.

Private Entomology Sector

Dan Papacek (Integrated Pest Management P/L, Mundubbera) attended the 24th AGM and Conference in Cairns. While there, he discussed his company's rearing procedures for mass-rearing beneficial arthropods for use in IPM programmes.

Queensland University

Drs Errol Hassan and Vic Galea from the University of Queensland Gatton College on behalf of IDP conducted an Applied Plant Protection Workshop at the University of Jenderal Soedirman in Central Java from 18 June to 17 July 1993.

The course drew staff members from different Universities throughout Indonesia. This type of course is the third course which has been conducted under the direction of IDP.

Mr M. O'Shea from Neemoil Australia visited Errol at Gatton College to discuss the neem experiments undertaken by Errol. Mr O'Shea took the opportunity to look at the College facilities, as the International Neem Conference is going to be held at Gatton College in 1996. Mr O'Shea also discussed the conference venue and other aspects of the conference with Errol.

Other areas discussed were the visit of Professor Dr Soelaksono and his group to Australia, from the University of Bandung. On his arrival they will visit Gatton College to discuss collaborative research related to neem between the two institutions and he will also visit Neemoil Australia and have discussion on neem extracts.

Mr Oazi Razzaque from Bangladesh, now living in Adelaide, started his PhD thesis under the supervision of Dr Errol Hassan at Gatton College. The project is in relation to the flea beetle *Psylliodes parilis* which attacks the Duboisia tree. Duboisia leaves are used in production of alkaloid drugs. The three year project is funded by Boehringer Ingelheim Pty Ltd in Sydney.

Gordon SIMPSON
Regional Councillor

SOUTH AUSTRALIA

Department of Crop Protection
University of Adelaide

Dr Jim Whitfield, of the University of Arkansas, visited the Department as a University of Adelaide Distinguished Visiting Fellow in May. He discussed the systematics of

braconids relevant to biological control with Andy Austin and Paul Dangerfield, and talked with Otto Schmidt and Andy on the phylogenetic distribution of Polydnaviruses. Dinah Hales visited the Department briefly in June. She talked with Otto on the developmental genetics of insects and Andy Austin and Mark Dowton on the use of phylogenetic data in taxonomy, followed by a whirlwind tour of the postgrads.

On the new face scene, Dr Eveline Bartowsky has joined the Schmidt laboratory as a postdoctoral fellow working on virus-like particles in parasitic wasps. Mike Keller's flock continues to expand. Herminanto (his full name) has joined us from Indonesia to take up a Masters project investigating the potential for the control of diamondback moth through the mass-release of parasitoids, particularly in seedling crops. An honours student, Sharyn Foulis, has begun work on host finding behaviour in the Alfalfa seed chalcid.

Jörg Kitt has obtained permission to release his rose aphid parasitoids, which he anticipates will take place in SA and Victoria in October. I, for one, look forward to giving and receiving roses sporting mummies in the near future!

Departmental lovebirds Frances FitzGibbon and David Gordon travelled home to Canada in May, where they married. They will shortly return to Canberra, where David has taken up a lectureship at ANU. Meanwhile Jane Drummond has temporarily returned to the Insect Pathology laboratory to complete a Bt trial on sheep louse.

Favourable reports have flowed freely following the Society's recent 24th Conference and AGM in Cairns. The conference was attended by John Jennings, Andy Austin and a large contingency of Crop Protection postgrads. Among them, Phil Carne Prize winner Gary Taylor presented his paper, entitled "Feeding lesions and the saliva of Hemiptera: how bugs obtain nutrients from their host plants". The Department's resident musicians, Scott Field and Paul Dangerfield, took the opportunity while in Cairns to play at such reputable establishments as the "Play Pen" and the "Big O". We're assured you could take your grandmother to either venue without a problem. [*although I might have a problem getting her together first - Ed.*]

School of Biological Sciences
Flinder University of South Australia

Duncan Mackay and Molly Whalen attended the Evolution meetings in Utah in July and gave a paper and poster describing some work they did last summer in Broome on interactions between ants and *Adriana* (Euphorbiaceae) and between ants and a native cotton.

Mike Schwarz has moved from LaTrobe University to take up a lectureship at Flinders University. His work on allodapine social behaviour will continue, but the main focus will gradually shift towards arid-zone bees. One species occurring in mallee regions is particulary interesting - it shows a striking queen/worker allometric dimorphism, and some queens appear to be flightless. Initial work will look at intra-colony relatedness and sex ratio patterns, and be followed up with investigation of intra-colony behaviour and caste determination. Work will also start on the biology of some colletid bees, looking at both social biology as well as resource and predator relationships.

Mosquito Research Group
University of South Australia

It seems that Adelaide is about to become the "wind tunnel city". Mike Kokkinn went over to the Zoology Department at the University of Adelaide and found that Michael Tyler and his honours student, Sonia Best, are also dabbling in such things with mosquitoes. Mike's idea is to investigate the repellent properties of frog skin. His wind tunnel is a much smaller affair and nothing like the bit of hardware under construction in the Mosquito Research Group laboratory. Someone unkindly described it as something "Saddam Hussein would be proud of!"

Alan Mead and Grant Fleming are making useful links with mosquito workers in South East Asia. Their time is now occupied by predation experiments, using the larvae of *Aedes aegypti* as prey for different species of *Mesostoma* (flatworms). Lawrie Bennett has expressed his interest in investigating genetic variability of mosquitoes using electrophoresis.

South Australian Museum

The entomology section has had an unusually large number of visitors lately, particularly

during the month of April, to examine, pick up or return material. Ebbe Nielsen borrowed our Castniidae and Steve Shattuck returned an entire cabinet of ants previously borrowed by John Greenslade. The Chrysomelidae were the star attraction, with Chris Reid, Ross Storey and Mauro Daccordi (from the Civic Museum of Verona) all spending various amounts of time examining sections of the family.

Don Chandler, of the University of New Hampshire, spent a week going through our holdings of Pselaphidae.

Other visitors were Walter Borsato, also from Verona, to work on vespids and Peter Hudson of Flinders University to look at cicindelids.

Primary Industries

The first release of the crown-boring weevil of Salvation Jane, *Ceutorynchus larvatus*, was made in the Adelaide hills in late May. Approximately 100 larvae were transfered onto Salvation Jane rosettes at the release site. Dennis Hopkins has secured a grant from the SA Cattle Compensation Fund to rear and release this weevil over the next three years.

Dennis Hopkins attended the Working Party on Grain Protection held in Perth in June and hosted by WA Cooperative Bulk Handling Limited.

Private Entomology Sector

James De Barro and Crop Monitoring Services are in the midst of their winter season and report no major pest problems in any of the winter/spring crops. Sitona weevil is quite abundant and is infesting some seedling lucerne stands. Snails are causing problems in most crops, with coriander and brassica crops often hardest hit - especially those sown via direct drilling methods.

The second "Lucerne Fair '93" will be held on September 23rd, the final year of the combined DPI and CMS dryland lucerne establishment project.

Bill FROST
Regional Councillor

TASMANIA

CRC Temperate Hardwood Forestry

Debbie Shohet has resigned and returned to Queensland. John Madden, Tony Clarke and Martin Steinbauer attended the AES Conference in Cairns.

Department of Primary Industry and Fisheries

Lionel Hill has been investigating onion thrips in fennel crops to gete an insecticide registered, preferably one safe to bees as the oil vital to Pernod drinkers is extracted from the seeds. Lionel also reported to the Seventh National Potato Workshop in Ulverstone that Tasmanian potato growers are wasting their money spraying for potato moth control. The moths do not move from weed potato sites into crops until the latter stop growing. Most move in after the foliage of crops die off and after insecticides have any efficacy.

University of Tasmania
Environmental Sciences

Peter McQuillan attended the biodiversity meetings in Brisbane in July and talked about scarab beetle diversity on farms. A number of his students are beginning projects with an entomological emphasis. Nicholas Porch is studying late Quaternary Insect remains from the marls and peats of Pulbeena Swamp in N.W. Tasmania. This sequence is already well carbon-dated and analysed for botanical data. Karyl Domaschenz is investigating the ingress of carabid beetles into regenerating logging coupes in the tall wet forests of the Picton Valley.

Helen Hocking is beginning a PhD on the impacts of acid mire drainage on aquatic insect fauna in the Pieman River catchment on the West Coast. This area is a conjunction of a highly prospective mineralised zone (the Mount Read Volcanics) and an important glacial refuge area for endemic biota, which will need careful management.

Peter McQuillan is finalising his manuscript on the genera of the larentiine geometrid tribe Xanthorhoini, and would be glad to hear from anyone with rearing records and foodplant details.

Forestry Commission

Susan Baker and Nita Ramsden have joined the leaf-beetle project team. Sue is determining the relationship between leaf beetle attack and subsequent tree growth. Nita is researching

aspects of the biology and control of leaf beetles. Aidan, Anna Greens (née Leon) son, arrived in February and has severely restricted his mum's research activities to one day a week. Anna is supervising the leaf beetle project until she is sure that her other babies (leaf beetles) are in safe hands. Anna leaves the team early in October this year.

Dick Bashford has been involved in surveys of the Giant Freshwater Crayfish, *Astacopsis gouldi*, in northern Tasmania, sorting Coleoptera from the Tarraleah wildlife habitat strip project, writing up, with Humphrey Elliott, the long term insect survey work in logged coupes on the East Coast, and has just completed the annual *Sirex* survey of *Pinus radiata* plantations in the State. He is organising a joint Australian Microbiological Society/Australian Entomological Society (Tasmania) meeting on 16th September.

Dick BASHFORD
Regional Councillor

VICTORIA

Department of Agriculture
Burnley Gardens

Work on the establishment of the new Institute for Horticultural Development at Knoxfield and Toolangi is progressing steadily. Indications are that insectary facilities comparable to those at Burnley (including an insecticide testing lab) will be provided for those entomologists relocating to Knoxfield. First to make the move was John Osmelak who, in his new role as Industry Manager, Ornamentals, has been based at Knoxfield since late July. It is probable that, soon after this issue of "Myrmecia" is published, the rest of the relocaters will be following suit. The eventual locations of those not going to Knoxfield are still uncertain; until further notice they will remain at Burnley. The Institute for Horticultural Development has a new postal address, which also applies to staff currently at Burnley. The address is:

Private Bag 15
South Eastern Mail Centre
Victoria 3176.

Knoxfield can also be contacted on (03) 210 9222 (phone) or (03) 800 3521 (fax).

Burnley contacts remain at (03) 810 1511 (phone) or (03) 819 5653 (fax).

Hopefully, a more settled list of names and contacts can be published in the November "Myrmecia".

In May, Peter Williams visited the Stored Grain Research Laboratory in Canberra for discussions with Chris Whittle on their collaborative study of phosphine fumigation of stored field peas for pea weevil control. Peter also represented the Department of Agriculture at the annual meeting of the Australian Wheat Board Working Party on Grain Protection. This year the meeting was hosted by Co-operative Bulk Handling Ltd (CBH), in Perth. CBH organised visits to the port terminal at Kwinana and to country storages after the meeting. There were also demonstrations of techniques for applying phosphine both as a gas in vertical storages and as tablet formulations in horizontal storages and bunkers. Prior to the meeting, Peter visited Neil Rothnie in the Agricultural Chemistry Section of the Department of Mines. Garry McDonald and Eve Merton visited Western Australia to catch up on redlegged earth mite research at CSIRO Floreat Park (James Ridsdill-Smith and colleagues) and in the Department of Agriculture labs in South Perth (Phil Michaels and Denis Gillespie). Eve, who recently commenced a PhD under a GRDC-funded stipend, is working with Garry at Burnley to complement the Western Australian research on RLEM, but in the context of canola and other winter oilseeds. Both Eve and Garry were impressed with the quality and scope of the Western Australian research. Garry also welcomes to his team Anthony O'Toole, who has started work on pest management in grain legumes, particularly focussing on *Helicoverpa*. Vince Tegani is undertaking an Honours project at LaTrobe University, supervised by Ary Hoffmann and Paul Horne. His project is to investigate the effects of selective rearing and in-breeding on a parasitoid wasp, *Apanteles subandinus*. Cait Symington is completing the final stages of her Masters Preliminary project looking at the relative toxicities of several insecticides on the potato moth and on the parasitoid *Orgilus lepidus*. She is being supervised by Paul Horne and Tim New (LaTrobe).

At the end of May, Paul Horne attended the 7th National Potato Research Workshop in

Ulverstone, Tasmania and presented two papers; one on a rapid diagnostic test for the presence of potato moth parasitoids and the other (on behalf of Andrew Henderson) on the adoption of IPM for potato moth control. Paul also attended the Invertebrate Biodiversity and Conservation Conference in Brisbane (July) and took the opportunity to visit Elaine Brough at the CRC for Tropical Pest Management to discuss beneficial insects in potato crops.

Mali Malipatil was responsible for the Western Flower Thrips (WFT) fever that has been going around the country since early May. He tentatively identified (later confirmed by Dr L. Mound of the Natural History Museum, London) this exotic, major pest species in samples of thrips collected from a flower nursery in the Yangebup area of Perth, WA. The WA Dept. of Agriculture has been determining the extent of the infestation of WFT in WA. The plant quarantine and agriculture departments in various states and the Northern Territory have also been busy planning and conducting surveys and formulating appropriate quarantine protocols for the species.

Mali presented a paper on WFT at the AES Conference in Cairns, where he also attended the Council of Heads of Australian Entomological Collections meeting. He was accompanied at the AES Conference by John Osmelak, Andrew Henderson and Jim Woodward, the latter extending the trip into one of his famous cockroach-collecting expeditions, this time on the Atherton Tableland.

Department of Agriculture
Institute for Sustainable Agriculture, Tatura

During February and March, Ian Barrass travelled to the United States to look at how technology transfer is used in promoting the adoption of new research. The people Ian visited included Stan Hoyt (Fruit Tree Research Institute, Washington State University), Mark Whalon (Pesticide Alternatives Laboratory, Michigan State University), Jim Travis and Mike Saunders (Penn State University), Bob Seem (Cornell University), Richard Rice and Bill Barnett (Kearney Research Station, California) and Mary Louise Flint (University of California). Ian also attended an industry workshop on *Bacillus thuringiensis* at Orlando, Florida. The workshop dealt with prospects and responses to the potential for the development of resistance to Bt endotoxins.

By comparison with Ian's journey, Vicki Bates' trip to the AES conference at Cairns must have seemed a bit tame, but she went anyway and presented a poster/video on technology transfer of IPM for apple and pear growers and consumers.

Museum of Victoria, Entomology

The major news in Entomology has little to do with Entomology (so we are led to believe). The Curator, Ken Walker, has joined the legion of bedraggled parents - he became father to Thomas. Ken now has a valid excuse for late or non replies to correspondence. Congratulations to Heather and Ken, commiserations to Megabyte.

On the work front, Entomology can finally stop travelling. Gargantuans is now finished, and the regular trips into the Museum for public performances as well as the associated media performances are now over.

Museum of Victoria
Invertebrate Survey

The first phase of the western Victorian basalt plains grasslands invertebrate project is over. This project, funded by the Endangered Species Unit, employed Richard Kay and Amanda Kobelt for 12 months. Richard has already left the Museum; Amanda has another 3 months.

The Save the Bush Program has funded a project on woodland and grassy woodland invertebrates. This project is supervised by Paul Horne (Department of Agriculture), Tim New (La Trobe Uni) and Alan Yen. It will run for at least 12 months, and the project will be undertaken by Graham Milledge.

Robyn Coy is continuing her sorting and identifying of beetles from East Gippsland, and has a part-time assistant, Mark Collier, helping her.

Many of the staff went north in July; Robyn Coy went to the Cairns Conference, and Robyn, Peter Lillywhite and Alan Yen attended the "Toward Biodiversity and Conservation" Conference at the Queensland Museum.

Andrew HENDERSON and Alan YEN
Regional Councillors

WESTERN AUSTRALIA

Department of Agriculture

The department is in the grip of the Western Flower Thrips *Frankliniella occidentalis* (WFT); this pest has to date been found on 18 properties around the metropolitan area and poses a serious threat to the local cut flower industry and any fresh produce leaving the State. Dr Nic Monzu will be off to Berlington, Vermont in late September to attend the International Thysanoptera Conference, where he hopes to glean information on integrated pest management (IPM) from the plethora of thripologists that will be attending. Bronwyn Houlding, who is currently working on IPM of strawberries, intends to accompany Dr Monzu to Vermont, USA. Stephen Goodwin from NSW Agriculture recently visited the department to discuss protocol and methods of monitoring WFT.

John Allen has been appointed as project officer for 12 months on the Entomology in Schools BIOSCAN project. This project commences this coming spring and summer in 60 rural schools monitoring dung beetles and bushflies. Ian Dadour informs me that one of the spring and autumn active Spanish beetles introduced into WA 5 years ago by CSIRO and DAWA, recently had 35,000 beetles harvested from a site in the south-west. These beetles were subsequently redistributed to 30 new sites throughout WA.

Curtin University of Technology
School of Biological Sciences

Several visitors have passed through in recent months. Penny Greenslade (CSIRO Div. of Entomology, Canberra) visited whilst conducting a re-survey of Collembola in rehabilitated bauxite mines. Shortly afterwards, David Norton, from Christchurch NZ spent time with Anne Brandenburg looking at the interrelations between microclimate and litter invertebrate density in wheatbelt plantings. David was followed by Harry Recher (Univ. of New England) who came to set up a new ARC funded project with Jonathan Majer. They plan to compare the abundance and richness of tree canopy arthropods in stands of native vegetation and in paddocks at progressive degrees of isolation from vegetation remnants within the WA and NSW agricultural areas. It is anticipated that sampling will commence in Sept. this year. Jonathon Majer also attended the AES Conference in Cairns and then went on to Brisbane to attend the Conference on Invertebrate Conservation and Biodiversity, which was held at the Qld Museum.

Agriculture Protection Board

Peter Davis attended the recent AES Conference in Cairns where he delivered a talk on the control of Singapore and coastal brown ants with various baits.

CALM

Gordon Friend recently attended the Conference on Invertebrate Conservation and Biodiversity in Qld (mid July), which looked at invertebrate biodiversity and conservation issues. Gordon has just finished a report to WWF on the effects of fire on invertebrate diversity in the Stirling Ranges. CALM is currently putting together a major study on the effects of logging in the jarrah forest, which includes the impact on soil and leaf-litter invertebrates.

University of Western Australia

Zoology's Head of Department Assoc. Prof. Win Bailey is currently at the 6th International Orthopterist's Society meeting at the University of Hawaii, Hilo. A regular visitor to the Zoology Department, Prof Darryl Gwynne, will be arriving in early August for 6 months sabbatical, working on his life long research insect, the humble katydid.

David COOK
Regional Councillor

OVERSEAS NEWS

New Zealand

Dr Rowan Emberson, Lincoln University was elected President of the Entomological Society of New Zealand at the Annual Conference in May held at Christchurch.

Dr Allen Heath, who has been editor of the NZ Entomologist for the past 7 years has stepped down and the new Editor is Mr J W Early, of Lincoln College.

A highlight of the conference was a workshop on threatened terrestrial insects to advance

conservation and this was held in conjunction with the Department of Conservation and included an overview of threatened insect conservation, monitoring and research activity. Priorities for management, monitoring and research were set up at this workshop.

New Zealand's most important pest of grasses and cereals is the Agentine Stem Weevil (*Listronotus bonariensis* (Kuschel), Coleoptera:Curculionidae) and is estimated to cost the pastoral industry between $78 and 250 million a year.

Recent control measures have involved the used of endophytic fungi but this can cause problems with animal health. Researchers at AgResearch Lincoln and Ruakura have embarked on a programme to import and release a biological control agent from South America. Release of the parasitoid occurred at sites near Hamilton, Christchurch and in Otago during the winter of 1991.

At the three northern North Island release sites, the level of parasitism by *Microctonus hyperodae* in adult ASW has increased since establishment in spring 1991, reaching 13-24% by autumn 1992 and 55-75% by autumn 1993. Key life stages of the weevil have been regularly sampled to provide accurate estimates of parasitoid and pathogen contributions to mortality. Preliminary life table analyses have shown that the combination of *M. hyperodae* and the fungal pathogen, *Beauveria bassiana*, are now a major source of reproductive failure in weevils at the release sites. Associated with this has been a marked reduction in the abundance of damaging second generation larvae during summer 1992-93 at all three sites.

Work has continued on the epidemiology of *B. bassiana* in field populations with the aid of selective culture medium developed specifically for entomopathogenic fungi. Disease has remained prevalent in adult weevils at the three sites, with epizootic disease development occurring in spring and/or autumn. In general, epizootic occurrence was found to be associated with an increase in *Beauveria* propagule numbers in soil, from a base level of 10^3/gm to 10^7/gm, and the presence of 10^7 propagules/gm on pasture herbage which at other times of the year is largely free of this fungus. Additionally, the fungus *Paecilomyces lilacinus* has been recorded as a pathogen of ASW for the first time, acting as a minor mortality agent during summer and autumn at the three sites.

The current focus of field work is on mapping the dispersal of *M. hyperodae* along transects out from the release sites at Wellsford, Hamilton and Reporoa. The results of this survey, combined with those completed in July 1992 and January 1993, will provide data on the rate and spatial pattern of parasitoid movement.

Ron Prestidge, of AgResearch Ltd, Ruakura heads the team researching this work.

John TENQUIST
New Zealand Correspondent

Papua New Guinea

A number of top level changes have been made in the hierarchy of the Department of Agriculture and Livestock (DAL) by its new Secretary, Mr Utula Samana, CMG. One of the casualties has been the former Chief Plant Protection Officer. The position is being filled by a national officer. It is expected that an Agriculture Research Institute, embracing all plant services and research functions would be in place in DAL by the beginning of January 1994.

Entomologists Bob Prior and Samson Laup left for Ivory Coast on 1st July to attend a major weed conference sponsored by FAO. Fred Dori, Lastus Kuniata, Jan Breithaupt and Helmet Sauke attended the AGM at Cairns from July 3-8, 1993. Ray Kumar and family commenced recreation leave (July 15 - September 10) taking them to India, Europe and Africa.

Two parasitoid introductions, *viz Encarsia* against spiralling whitefly and *Heteropsylla spinulosa* against the giant weed, *Mimosa invisa*, have firmly established themselves in mainland PNG. DAL rice breeders have developed a 90 day maturing variety which is, however, highly susceptible to brown planthopper attack.

Ray KUMAR
PNG Correspondent

NEWS FROM AFFILIATED SOCIETIES

Entomological Society of Queensland

Roger Kitching's group at Griffith University hosted our June "Notes and Exhibits" meeting. Michael Gardner was presented with the Student Award for his project "Nutritional suitability of two weed species to a biological control agent". Geoff Monteith, Heather Janetzki and Rae Sheridan, from the Queensland Museum, talked about and displayed "Insect Workshops for Teachers" and "Insect Loan Kits for Schools", projects which have received much support. Topics from other speakers included European wasps, the conservation status of Australian butterflies and geneflow among conspecific mayflies. The evening ended with a tour of the Biodiversity Unit.

The first of our 70th Anniversary meetings, collectively titled "Science in Australia" was held on August 3rd. Ruth Wade, Executive Director of the Cattlemen's Union, represented the Industry perspective. Her address, "Industry Ownership of Research, Problems and Solutions", explored the relationship between research and industry funding bodies, with particular reference to the beef industry. As well she discussed changes in the culture of rural research in the last five years, consultancies and Cooperative Research Centres. It was a thought-provoking and enjoyable evening. Copies of her talk are available from me on (07) 877 9716.

Our next meeting, on September 16, will be addressed by the Hon. Dr Barry Jones MP. His topic is "Australia Towards the 21st Century".

Judy KING
Representative Councillor

Entomological Society of NSW

Alan Clift talked at the May meeting about his work on paedogenetic cecidomyiids associated with cultivated mushrooms. He dealt with their biology and population dynamics, with emphasis on survival and dispersion. After the talk, the meeting inspected the Mushroom Growing Unit at Biological and Chemical Research Institute, where Alan (and Mary Ann Terras) had made most of the observations referred to in the talk.

The June meeting featured Ted Taylor, talking about "house hungry termites". Ted described the main damaging termite species in Australia and discussed their biology in relation to their importance. He illustrated his talk with slides of termites, their nests and damage from around Australia, including tropical Western Australia. Examples of termite damage were displayed.

Dr Barry Fox was the guest speaker at the August meeting. His topic was about the diversity of ground dwelling ants in relation to land rehabilitation after sand mining. The sites he sampled were on a long strip of land, progressively mined over nearly 12 years. Each site was sampled every two years so he could first sample along the strip to obtain an initial time series and then, by subsequent sampling, he could validate the assumption that all sites along the strip were similar. This is an elegant procedure and should produce excellent results. The main limitation is in identifying the ants to species!

Alan CLIFT
Representative Councillor

Entomological Society of Victoria

At our AGM in June, Peter Cawardine was elected President, M. Hunting and B. Vardy, Vice Presidents, I. Endersby Hon. Treasurer and Public Officer and D. Dobrosak Hon. Editor. The position of Hon. Secretary is vacant at the moment.

On the 20th of July, Ken Walker became the PROUD father of a baby boy, Thomas. The name Francis had been toyed with, but was deemed unsuitable for the son of an entomologist. (Any conversation with Ken at the moment consists of 99% about the baby - it seems that nothing else exists at the moment).

On 2nd August Mary Le Souef, wife of John (Zoo) Le Souef (deceased) passed away.

At our June meeting Ross Field spoke on "Biological Control and Protection of Non-Target Species". At our next meeting on 20th August, the speaker will be David McLaren and his subject will be "Biological Control of Ragwort".

As the position of Secretary is vacant, any contact with the Society should be through my address as given on the back cover of this issue.

Peter CAWARDINE
Representative Councillor

BOOK REVIEWS

CSIRO Handbook of Australian Insect Names: Common and Scientific Names for Insects and Allied Organisms of Economic and Environmental Importance. Sixth Edition. I. Naumann. CSIRO Australia, 1993. $A50 in Australia, $US50 elsewhere.

The introduction to this book notes that its publication was prompted in part by the arrival of the second edition of *The Insects of Australia* (Melbourne University Press, 1991.) The latter book introduced major changes in family level classification which alone provided more than sufficient reason to revise the fifth edition of " *Scientific and common names of insects and allied forms....*" which was published in 1987. The incorporation of these changes, together with the inclusion of many new entries and some improvement in presentation has resulted in the availability of a valuable reference book of a standard seldom reached by such works. Its contents deal with over 2,000 species and nearly 250 families of Australian insects, spiders, mites and scorpions, plus some land-based crustaceans and molluscs. This wealth of information is divided in a manner similar to that used in the previous edition - an index of each Common Names and Scientific Names, a Systematic List and an Index of Commonly Used Abbreviations of Authors' Names.

One of the first improvements noticeable is that throughout the book, each alternate page has at its head the name, printed in upper case, of the first and last entry respectively. This substantially facilitates finding the entry sought, as anyone who frequently uses reference books will aver. Previous editions of this book received well-deserved praise for the rarity of errors, and this level of excellence has been maintained. After lengthy and determined searching, I was able to find just two errors, both trivial. Users of the book are invited to write to Dr Naumann if errors are found in (*inter alia*) Part 5 (abbreviations of authors' names). This should have read "Part 4". In that section, the name given for the abbreviation "Newm." is "Newmann". The correct name is "Newman" - the 19th century founder of the journals *Entomological Magazine* and *The Entomologist*.

I am unable to comment on entries dealing with Mollusca, Crustacea or Myriapoda, but it would be surprising if there were any decline in the accuracy of entries for these groups.

The book's introduction sensibly foreshadows the inevitability of some disagreement as to the suitability or otherwise of vernacular names which are chosen. My criticism in this area is concerned mainly with omissions.

The common names of butterflies in G.A. Waterhouse's *What butterfly is that?* (Angus & Robertson, 1952) have been listed (after some rationalisation), and this is to be welcomed. I would like to have seen the inclusion of numbers of the many common names given in K.C.McKeown's *Australian Insects* (Royal Zoological Society of New South Wales, 1944). Many of these names will have fallen into disuse during the half century since that book was compiled, but some deserve retention."Pin-tail beetles" for Mordellidae, Histeridae added to Silphidae under "Carrion Beetles", "Long-tailed wasps" for Megalyridae and "Feather-legged Bug" for the Reduviid, *Ptilocnemus femoratus* Horváth (sufficiently distinctive to warrant a Plate in both editions of *Insects of Australia*) are among those names which have early origins, but remain appropriate today. Among more recently named species, the Tephritid *Phytalmia mouldsi* McAlpine & Schneider - "Antlered Fly" - is an example of one which warrants inclusion.

To the list of common names of spiders, "Stick spiders" for *Ariamnes* spp. and "Six-spined spider" for *Gasteracantha* are two which could be added, as they are included in the widely-used *Toxic Plants & Animals: A Guide for Australia* (Queensland Museum, 1987), as could "Robber Spiders" for the Mimetidae, listed by Davies in *Australian Spiders* (Queensland Museum, 1986).

While this book is published by CSIRO, and so carries the deserved prestige associated with that name, I believe that retention of the previous title would have been preferable. The many additions and alterations made to the previous edition for inclusion in the new work were collated by CSIRO. Acknowledgment is made (but only in the introduction) of current contributions by members of the Editorial Board and those individual specialists who were consulted. It remains that the core data for this and previous editions came primarily from State Departments of Primary Industry and

Agriculture, State Museums and Universities. Publication as a "CSIRO Handbook....", in the absence of prominent acknowledgment of the basic input by these institutions tends to suggest that CSIRO (apart from the contributors mentioned above) was the original producer of source material. This could generate a degree of discontent in some areas.

A review of this book would be incomplete without a comment on its price. All those who buy books either by choice or necessity are only too well aware of their ever-escalating price. With due regard being given to the complexity of the contents of a book of this nature, together with its substantially increased size compared with the previous edition, I nevertheless feel that its price is excessively high. As the book represents the best kind of communication between scientific and non-scientific workers in Entomology, this is regrettable.

Don SCAMBLER
Department of Entomology
Australian Museum
Sydney South, NSW, 2000.

Tineid Genera of Australia (Lepidoptera) Monographs on Australian Lepidoptera - Volume 2.

by Gaden S. Robinson and Ebbe S. Nielsen. CSIRO Publications, Melbourne; 344 pp; 734 black and white illustrations; Hardback; RRP $A80, $US80 (overseas).

This, the second volume in the series on Australian Lepidoptera, will stand as a landmark publication on the taxonomy of the Tineidae. This group, the 'clothes moths' of cosmopolitan notoriety, whose taxonomy has been treated by various authors world wide in a disjunct and insular fashion has now been focussed, as far as the Australian fauna is concerned, into this volume. The authors have provided the first revision of the Australian Tineidae in one hundred years and have included reviews of the known biologies and pest status of the taxa in this economically important group.

The concise taxonomic treatment of this group has arisen by the authors use of a 'top down' cladistic approach, initially defining the family and showing its phylogenetic position. By looking at the world fauna, the eleven subfamilies found within Australian, are redefined. Disparate work by overseas researchers has been appraised to assist in the placement of Australian taxa.

Chapters on Morphology and Biology review, in precise detail, features of the Australian Tineid fauna. Particular attention has been paid to the less well understood genera. Reviews of work done on economically important and well understood species are profusely cited and the inclusion of larval behaviour, pest damage and parasites provides a well rounded understanding of their biology.

The chapter on Diversity and Distribution places the australian tineid fauna in world context and shows that we have, in our 44 genera, species representing 27% of the world fauna (this includes undescribed species). Work done by researchers in other countries indicates a logarithmic relationship with the number of species and genera to a given area of land mass, Australia being only slightly less in respective numbers than the Nearctic, Palaearctic, African regions and consequently better off than the more insular faunas of New Zealand, United Kingdom etc.

A key to the Australian genera is provided and a systematic appraisal of the Australian genera is given. The key is easy to use and supported by numerous illustrations of diagnostic features. For each genus the text gives synonymies and lists the constituent species, special biological features, distribution notes and is illustrated where possible with photographs of representative species, genitalic slides and electron micrographs or line drawings of pertinent morphological features like the wing venation, head or flagellum.

The authors have also included a chapter on taxa excluded from the Tineidae which will provide further assistance to those taxonomists reviewing the Tineidae.

This richly illustrated and referenced volume will undoubtedly be the major reference work for the specialist taxonomist, stored product entomologist or lepidopterist working on the Australian Tineidae for many years to come and has provided a valuable addition to our understanding of the Australian fauna.

Peter GILLESPIE
BCRI, Rydalmere

NEW PUBLICATIONS

Fauna of New Zealand
Three new issues in this outstanding series are now available:
No 26. Tenebrionidae (Insecta: Coleoptera): catalogue of types and keys to taxa.
by J.C. Watt. 70pp. $NZ 27.95
No 27. Antarctoperlinae (Insecta: Plecoptera).
by I.D. McLellan. 70pp. $NZ 27.95
No 28. Larvae of Curculionoidea (Insecta: Coleoptera): a systematic overview.
by Brenda M. May. 226pp. P.O.A.

All three maintain the highest standard and are well illustrated. They are available on subscription from:

Fauna of New Zealand
Mt Albert Research Centre
Private Bag 92169
Auckland
NEW ZEALAND.

Integrated Pest Management for Greenhouse Tomatoes
IPM Manual Number 1
ed. N.A. Martin

This manual provides growers with detailed guidance on the integrated pest management program for greenhouse tomatoes. The program is based on the biological control of whitefly and maximising the use of environmental controls to reduce the risk from disease. The manual is bound is a loose-leaf ring binder so that sections can be replaced when updated.
Price: $US 35.00 (incl. postage & handling)
Available from:

Librarian
Mt Albert Research Centre
Private Bag 92169
Auckland
NEW ZEALAND.

MARKET PLACE

INSECTS FOR ALLERGY TESTS

Dr Brian Baldo at the Royal North Shore Hospital in Sydney would be interested to hear from any people who could supply, on a regular basis, quantities (50-100g) of various insects. The hospital plans to produce extracts of the insects for use in testing for allergies and is willing to pay suppliers.

The types of insects of interest include Ceratopogonids ("sandflies"), cat fleas, Tabanids ("horse flies"), mosquitoes, silverfish and bogong moths, and also bushticks. In some cases multispecies collections would be acceptable.

Enquiries should be directed to Dr B.A. Baldo, Kolling Institute for Medical Research, Royal North Shore Hospital, St Leonards, NSW 2065; telephone (02) 438 7272.

THE NATURAL HISTORY MUSEUM

Annual Identification Course on Identification of Insects and other Arthropods of Medical and Veterinary Importance
18th April - 13th May 1994

Specialist training in traditional and modern taxonomic techniques, concepts and collections management; resulting in a NHM Short Course Diploma

Fees: The course fee is £2,800 which includes tuition, course notes, accommodation and meals. This fee does not include the cost of travel to and from London.

Further information and application forms are available from *Mrs C.A. Lowry, The Natural History Museum, Medical and Veterinary Division, Dept of Entomology, Cromwell Rd, London SW7 5BD U.K.*

Completed forms should be returned to arrive not later than 1 December 1993.

SCIENCE in AUSTRALIA

A series of talks

in celebration of the
70th ANNIVERSARY OF THE
ENTOMOLOGICAL SOCIETY OF QUEENSLAND

GUEST SPEAKERS

. . . . . .

RUTH WADE *Executive Director of Cattlemen's Union*
"Industry ownership of research, problems and solutions"
INDUSTRY PERSPECTIVE - **Tuesday, August 3, 7.30pm**

. . . . . .

Dr BARRY JONES *The Hon. Barry O. Jones, M.P.*
"Australia towards the 21st Century"
POLITICAL PERSPECTIVE - **Thursday, September 16, 7.30pm**

. . . . . .

Professor DEREK TRIBE
Executive Director, The Crawford Fund for International & Agricultural Research
"Science in Australia - the Scientist's perspective"
SCIENTIFIC PERSPECTIVE - **Monday, October 18, 7.30pm**

. . . . . .

QUEENSLAND MUSEUM

cnr Grey and Melbourne Sts, South Brisbane

For more information contact Robert Raven (07) 840 7698 or Judy King (07) 877 9716
Sponsored by **Mauri Yeast Pty Ltd** & **Rhône-Poulenc Rural Australia Pty Ltd**

Isn't it time you recommended IPM?

AGRISENSE™

Now, there is an alternative to insecticidal spray schedules – Integrated Pest Management.

By using the AgriSense Trappit range of systems as part of a programme for monitoring and control of Codling Moth, Light Brown Apple Moth, Heliothis or Fruit Fly it is possible to:

- ▲ Monitor insect pest presence.
- ▲ Identify spray windows.
- ▲ Reduce or eliminate insecticide wastage – saving money.
- ▲ Retain balance of natural predators and parasites.

Telephone or fax:
(02) 4164890 for further information.

TM of AgriSense

trappit©

REGIONAL COUNCILLORS

Queensland
Mr T.A. Heard
CSIRO Entomology
PMB 3
Indooroopilly Qld 4068
Ph (07) 377 0843
Fax (07) 871 0819

Mr G.B. Simpson
DPI Entomology Branch
Box 102 Toowoomba Q 4350
Ph (076) 31 4313
Fax (076) 34 7421

Dr H.A.C. Fay
Qld Dept of Primary Industry
PO Box 1054
Mareeba Q 4880
Ph (070) 92 1555
Fax (070) 92 3593

New South Wales
Mr R.J. Faulder
Yanco Agricultural Inst.
NSW Agriculture
Yanco NSW 2703
Ph (069) 53 0244
Fax (069) 53 0268

Ms L. Rodgerson
School Biol. Sciences
Macquarie Univ. NSW 2109
Ph (02) 805 8197
Fax (02) 805 8245

Mr J.G. Clancy
Medical Entomology Unit
Westmead Hospital
Westmead NSW 2145
Ph (02) 633 7548
Fax (02) 633 5314

Victoria
Mr A. Henderson
Institute of Plant Sciences
Swan St
Burnley, Vict. 3121
Ph (03) 810 1511
Fax (03) 819 5653

Dr A. Yen
Invertebrate Survey Dept.
Museum of Victoria
71 Victoria Cres
Abbotsford Vic 3067
Ph (03) 419 5200
Fax (03) 416 0475

Australian Capital Territory
Dr P.S. Cranston
CSIRO Entomology
GPO Box 1700
Canberra ACT 2601
Ph (06) 246 4282
Fax (06) 246 4000

Dr D. Dall
CSIRO Entomology
GPO Box 1700
Canberra ACT, 2601
Ph (06) 246 4117
Fax (06) 246 4000

South Australia
Mr W.E. Frost
Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond
South Australia 5064
Ph (08) 303 7204
Fax (08) 379 4095

Tasmania
Mr R. Bashford
Forestry Commission
GPO Box 207B
Hobart Tas 7001
Ph (002) 33 8231
Fax (002) 33 8270

Western Australia
Dr D.F. Cook
WA Dept of Agriculture
Baron-Hay Court
South Perth WA 6151
Ph (09) 368 3250
Fax (09) 367 2625

Northern Territory
Mr C.G. Wilson
Berrimah Farm
GPO Box 990
Darwin NT 0801
Ph (089) 89 2211
Fax (089) 89 2181

REPRESENTATIVE COUNCILLORS

Entomological Society of Queensland
Dr J. King
QDPI Forestry Service
PO Box 631
Indooroopilly Q 4068
Ph (07) 877 9716
Fax (07) 371 2217

Entomological Society of New South Wales
Dr A.D. Clift
BCRI, PMB 10
Rydalmere NSW 2116
Ph (02) 683 9777
Fax (02) 630 4475

Entomological Society of Victoria
Mr P. Cawardine
2a Victoria Rd
Malvern, Vic 3144
Ph (03) 571 8958

OVERSEAS CORRESPONDENTS

New Zealand
Mr J. Tenquist
Wallaceville Animal Research Centre
Private Bag
Upper Hutt, NZ

Papua New Guinea
Prof. R. Kumar
Dept of Agriculture & Livestock
PO Box 1430
BOROKO
Papua New Guinea
Ph (PNG) 675 230268
Fax (PNG) 675 230279